STORAGE

THE PRACTITIONERS' MONTHLY.

DETROIT MEDICAL JOURNAL

VOL. III. FEBRUARY, 1904. NO. 11.

LIBRARY FEB 20 1934 UNIVERSITY OF TORONTO

EDITOR:
FRANK BURR TIBBALS, M.D.

COLLABORATORS:
AUGUSTUS WRIGHT IVES, M. D. HENRY JASPER HARTZ, M. D.
JOSEPH SILL, M. D. DON M. CAMPBELL, M. D.

THE RELATION OF SURGICAL PATHOLOGY TO SURGICAL DIAGNOSIS:
Joseph C. Bloodgood, M. D.: - - - - 337

EDITORIAL:
Surgical Pathology: - - - - - 353
Much Ado About Nothing: - - - - 353

EDITORIAL NOTES; - - - - - - 354

NEW INSTRUMENTS AND DEVICES; - - 359

PROGRESS OF MEDICAL SCIENCE; - - 362

BOOK REVIEWS; - - - - 366

ADVERTISING INDEX: - - - XI

DETROIT MEDICAL JOURNAL Co. PUBLISHERS.
103 and 105 Miami Avenue, - - DETROIT, MICH.

ENTERED AT THE POST OFFICE AT DETROIT, MICH., AS SECOND CLASS MATTER MAY 9TH, 1901.

TRUE ANIMAL IRON

Physicians everywhere are looking for a **Blood** reconstructant that contains every element of nutrition of the animal, mineral and vegetable kingdoms, viz: **Animal Iron;** a reconstructant that will supply every deficiency in the blood of anaemic patients in adequate quantity and quality: one that will nourish—stimulate—assimilate—without tax on the digestive organs. These requirements are all found in perfection in

BOVININE

It Contains 10% Animal Iron,

20% Coagulable Albumen, and all the constituents of healthy **Blood.**

It is thoroughly sterile, requires little or no digestion, and produces blood corpuscles that **Mature.** Corpuscles of fullness and integrity. Herein lies its great superiority over any and all the preparations of inorganic iron. Your microscope will prove the truth of these facts. Our scientific treatise on Haematherapy for the asking. It contains reports of hundreds of cases

THE BOVININE COMPANY

75 West Houston St., New York

Glyco-Thymoline in Phthisis and Tubercular Invasion of the Submaxillary and Cervical Glands.

It seems to have been thoroughly established that in most cases, tubercular infection has been through the mouth and naso-pharynx. This being the case a protection of these parts from invasion is of the first consequence. In a recent note on this subject Professor Arnulphy, of Paris, says that in addition to other methods to protect those persons as physicians, relatives, nurses, etc., who are compelled to come in contact with consumptive patients, the frequent daily use of Glyco-Thymoline as a mouth, throat, and nasal wash will ensure a degree of immunity from infection that reduces the danger to a minimum. To those already suffering from the disease, Glyco-Thymoline has proved of great value as a means of keeping the mouth, nose and cervical glands in an aseptic condition with a marked alleviation of cough and irritation. The action of the solution of Glyco-Thymoline on the mucous membranes is soothing and distinctly exosmotic, increasing the capillary circulation.

New York Medical Journal *Jan. 9th. 1904*

OBSTETRICS AND GYNECOLOGY

H. O. Bates, M. D., of Chicago, Ill., writes: "I have been and am using Glyco-Thymoline in my obstetrical practice for intra-uterine irrigations, vaginal douche, bathing child's eyes and mouth. No obstetrician should be without it. I order patients, nurses and attendants to keep it in the house and use it for antiseptic work."

Chas. A. Stedman, M. D., of Cleveland, Ohio, reports the following case: "Mrs. R. This was a case of endometritis, with extensive inflammation. The entire vaginal tract was inflamed and tender, with slight ulceration of the os and profuse leucorrhoeal discharge. There was a great deal of pain in the lumbar region, and the patient was extremely nervous. Tampons of Glyco-Thymoline and glycerine, equal parts, were applied and left in situ twenty-four hours. After removal of the tampon I gave the patient a vaginal douche of a solution of Glyco-Thymoline and water. Under this treatment the pain and tenderness rapidly subsided and the leucorrhoea diminished. After three months I instructed her to use Glyco-Thymoline douches three times a week, which were continued for some time. All her symptoms have disappeared and the patient now considers herself well."

New York Medical ournal *Sept. 12th. 1903*

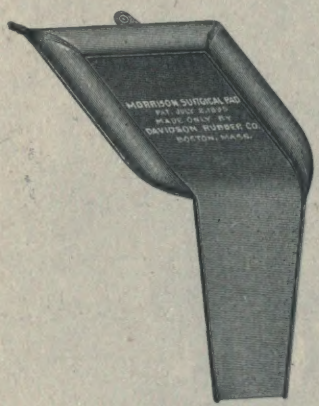
K&O. DOUCHE FOR THE APPLICATION OF GLYCO-THYMOLINE TO THE NASAL CAVITIES

GLYCO-THYMOLINE
FOR
CATARRHAL CONDITIONS

Nasal, Throat
Intestinal
Stomach, Rectal
and Utero-Vaginal

KRESS & OWEN COMPANY
210 FULTON STREET NEW YORK

Morrison's Surgical Pad . .



The Best
Most Convenient
and
Most Practical

The Davidson Rubber Co.

19 Milk Street,
BOSTON, MASS.

MARKS' ARTIFICIAL LIMBS

ESTABLISHED 50 YEARS.

Although a man may lose both of his legs, he is not necessarily helpless. By using artificial legs, with rubber feet attached, he can be restored to usefulness.

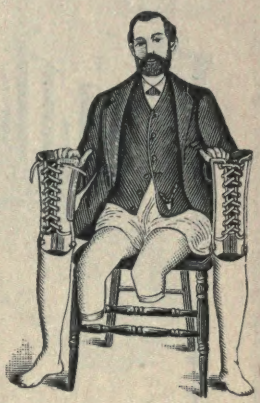
The engraving on the left is from an instantaneous photograph of a man ascending a ladder. He has two artificial legs substituting his natural ones, which were crushed in a railroad accident and amputated. With his rubber feet he can ascend or descend a ladder, balance himself on the rungs, and have his hands at liberty. He can work at a bench and earn a good day's wages. He can walk and mingle with persons without betraying his loss; in fact, he is restored to his former self for all practical purposes.

With the old method of complicated ankle joints these results could not be so thoroughly attained.

Over 27,000 in use, scattered in all parts of the world. Many of these have been supplied without the wearers presenting themselves to us, simply by sending measurements on a measuring sheet which anyone can easily fill out.

Received 40 Highest Awards. Purchased by the U. S. Government and many foreign governments. A treatise of 500 pages and illustrated measuring sheet, also catalogues in French, German and Spanish, sent free upon application.

The Most Comfortable, Durable, and Natural.



A. A. MARKS, 701 BROADWAY, New York City.

Where Doctors Agree

No matter how divergent the opinions of members of the medical profession in other matters, none will dispute that unless the physician be ready to adopt the latest methods and appliances, he is pretty sure to be a failure, both from a professional and financial point of view.

That every practicing physician should have a Sterilizer—the best, most economically managed, all-'round apparatus he can secure, none will gainsay. Such an appliance is the

ROCHESTER COMBINATION STERILIZER

It gives the Physician in compact form just what he needs
STEAM BOILING WATER HOT AIR (Three in one)

We have a little booklet that tells all about them. Your name sent to us on a postal card will bring you a copy, or ask your instrument dealer.

WILMOT CASTLE CO., 8 Elm Street, ROCHESTER, NEW YORK

The Most Eminent Diagnosticians Use and Recommend

Bowles' Stethoscope

($4.00 Net)

Made and Wholesaled Only by

GEORGE P. PILLING & SON, SOLE LICENSEES,

Philadelphia, Pa., U. S. A.

FOR SALE BY ALL SURGICAL INSTRUMENT MAKERS.

For rough usage,
dishwashing, etc.,

Non-Pa-Reil Gloves . .

have no equal.

For sale by all jobbers.

Booklet free.

The Faultless Rubber Glove

is the best glove your money can buy.

CAN BE STERILIZED REPEATEDLY.

Made in four weights and in sizes and half sizes from 6 to 11 inclusive.

THE FAULTLESS RUBBER CO.

AKRON, OHIO, U. S. A.

This Tube Actually Sprays the Liquid

GEBAUER'S ETHYL CHLORID C. P.

EVER READY LOCAL ANESTHETIC

A Nickel Plated Metallic Container

ANESTHESIA IN 30 SECONDS

A Spray that can be regulated and very convenient for General Anesthesia.

NO LEAKAGE
BREAKAGE
WASTE
CLOGGING

TUBES REFILLED FOR 75c.

We claim our tube superior to all others BECAUSE

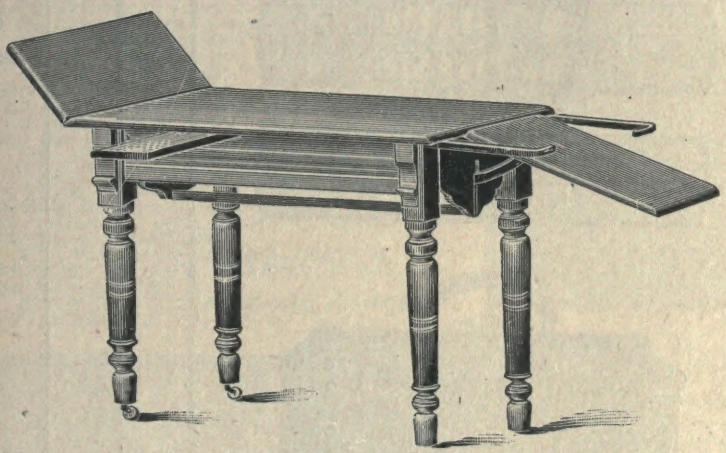
1. It absolutely will not *leak*. All the joints are brazed and soldered and the only opening is closed by a needle point valve.
2. It *sprays* the liquid in the form of a pulverized stream, thereby hastens evaporating and produces anesthesia in 30 seconds, using 1-10 the liquid used by tubes projecting the liquid in a jet stream.
3. It is more *convenient* to use. The operator can hold the nozzle 1 to 2 inches from part to be anesthetized and no liquid *accumulates or runs to waste*, but evaporates as soon as it strikes.
4. It will not *break*. Made of nickel plated metal.
5. It will not *clog*. Has no fine capillaries. Size of opening regulated by screw valve.

PRICE.

40 Grm. Tube.....$1.00
40 Grm. Tube, in leather case.....$1.25
Empiy Tubes refilled.....75 cents

Sample Tube Mailed upon Receipt of Price.

THE GEBAUER CHEMICAL COMPANY, 1 to 5 Fleet St., Cleveland, O.



The.... Detroit Surgical Table

NEAT,
COMPACT,
DURABLE.

Made of highly polished oak, 70 inches long and 24 inches wide. When head and foot extensions are lowered, the table is 36 inches long. It is suitable for surgical and gynecological work.

An extension, sliding out on either side of the table, forms rests for the arms or for instruments. Stirrups are adjustable to three lengths. Casters are under the head to facilitate moving.

PRICE, $12.50. NET.

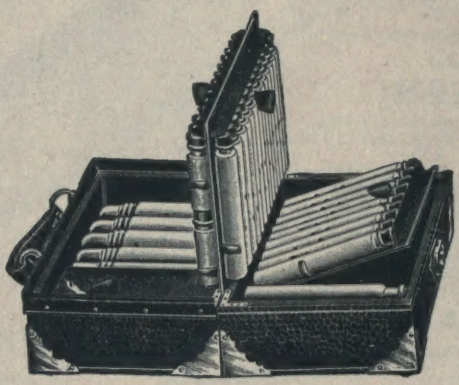
The J. F. HARTZ COMPANY, Manufacturers,

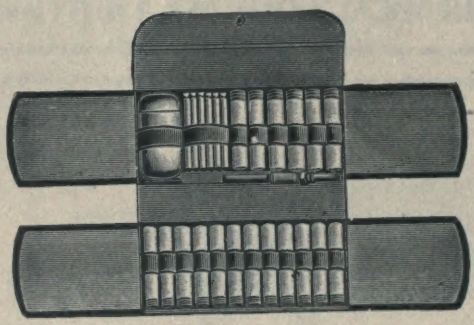
103-105 Miami Avenue, **Detroit, Mich.**

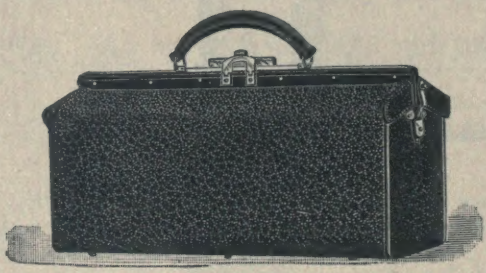
2 Richmond Street, E., **Toronto, Ontario.**

WRITE FOR CATALOGUE

It explains about these, and about 100 more different sizes and styles of Medicine Cases, Obstetric, Instrument and Emergency Bags, also Vial Cases of every description.



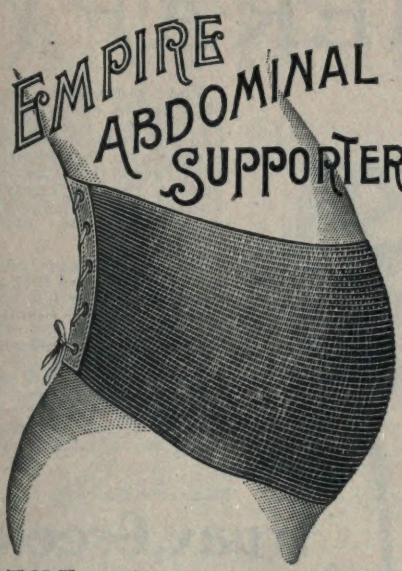




Western Leather Mfg. Company

48 Wabash Avenue

CHICAGO



is superior to all others for the following reasons:

1st. It adapts itself to every movement of the body, giving strong and even support.

2nd. It produces warmth without irritation or sweating, as it is perfectly ventilated.

3rd. In pregnancy, corpulency, tumors or other cases of enlargement of abdomen, it supports weight of body from the backbone, relieving the sinews of their overwork.

4th. Its easy appliance (lace and draw on over head or feet).

5th. It is cheap, durable; it can be washed when soiled, proper care being taken to cleanse in luke-warm water and dry in shade.

In ordering give largest measure of the abdomen.

PRICES:

8	inches	wide			$2.50
11	"	"			$3.00
8	"	"	Silk	Finish	$4.00
11	"	"	"	"	$5.00
8	"	"	Double	Rubber	$3.00
10	"	"	"	"	$3.50
12	"	"	"	"	$4.00

THE Empire Elastic Bandage

Specially Adapted for Varicose Veins

We invite the attention of the Medical and Surgical profession to the various merits combined in our bandages.

1st. ITS POROSITY—The greatest in the "EMPIRE." It never causes itching, rash or ulceration under the bandage.

2nd. ITS ELASTICITY, which will enable the surgeon or nurse to put it on at any required tension, and which will follow a swelling up or down as the case may be, a feature unknown to any other bandage.

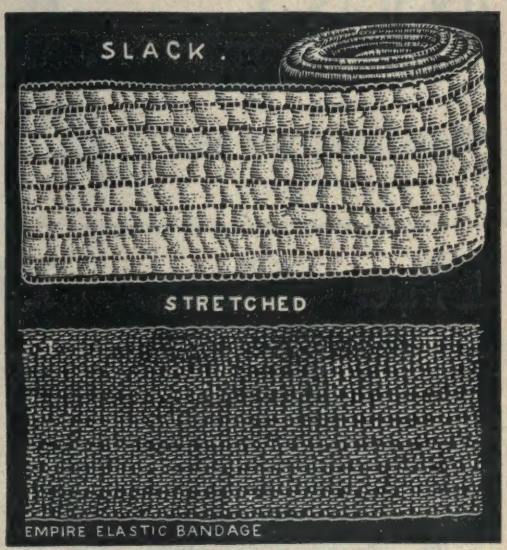
3rd. ITS ABSORBENT PROPERTIES—Greatest in the Empire.

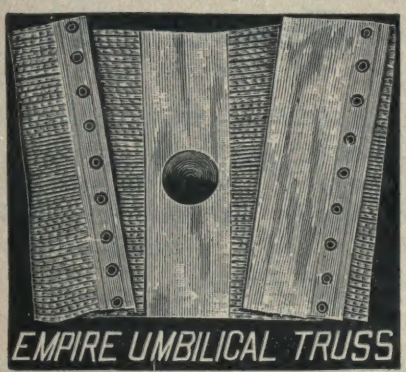
4th. ITS EASY APPLICATION to any part of the body, not being necessary to fold over, as with other bandages as it follows itself with equal uniformity around any part of the abdomen.

5th. ITS SELF-HOLDING QUALITIES—No bother with pins, needles and thread, or string, so tiresome to surgeons, as simply tucking the end under the last fold insures its permanent stay, until its removal for purpose of cleanliness.

6th. The only bandage that is SUPERIOR TO THE ELASTIC STOCKING for varicose veins.

SEND $1 FOR 3 IN. by 5 YD. BANDAGE ON APPROVAL.





The Empire Umbilical Truss

Is an Abdominal Supporter with Button Inserted at Navel

Is made of the same material and possesses the same merits as the Empire Elastic Bandage and Empire Abdominal Supporters, and it is pronounced by all who have seen it to be the best in the world. ALL OUR GOODS ARE SENT FREE BY MAIL UPON RECEIPT OF PRICE AND MONEY REFUNDED IF NOT SATISFACTORY.

PRICES:

Infant, hard pad	$1.25	Infant, soft pad	$1.50
Children, hard pad	2.50	Children, soft pad	3.00
Adult, hard pad	4.00	Adult, soft pad	5.00

ALL ABOVE PRICES ARE NET TO PHYSICIANS.

. . . Manufactured by . . .

Empire Mfg. Co. 73 Spring Street, Lockport, N. Y., U. S. A.

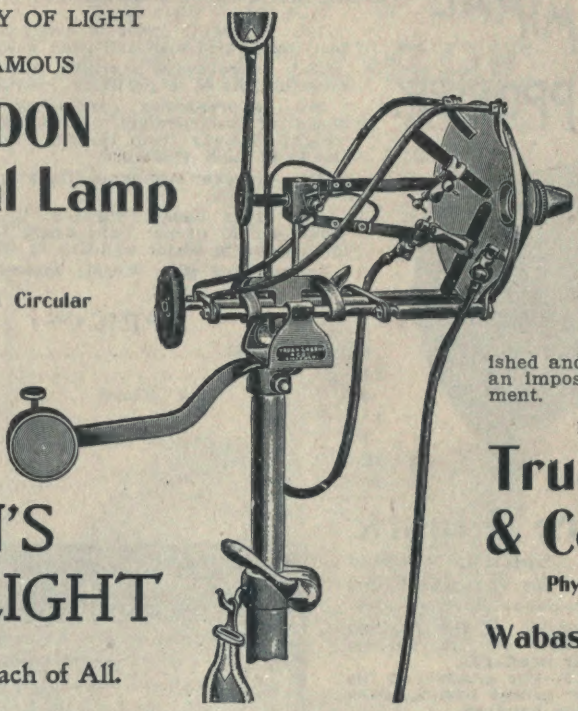
PHOTO-THERAPY

THE SURGERY OF LIGHT

THE FAMOUS

LONDON Hospital Lamp

Write for Descriptive Circular with Price.



The wonderful results obtained in the treatment of Lupus, Epitheliomas and Skin Diseases in General have demonstrated that this method has long passed the experimental stage, and its universal employment is rapidly approaching.

This apparatus shows by Spectroscopic test over 60 per cent of Ultra-Violet Rays. Outfits furnished with Rheostat, for either direct or alternating current. Reservoirs for water circulation and three Rock Crystal Lenses. The apparatus is highly finished and nickel-plated and makes an imposing piece of office equipment.

THE GENUINE

FINSEN'S LIGHT

Within the Reach of All.

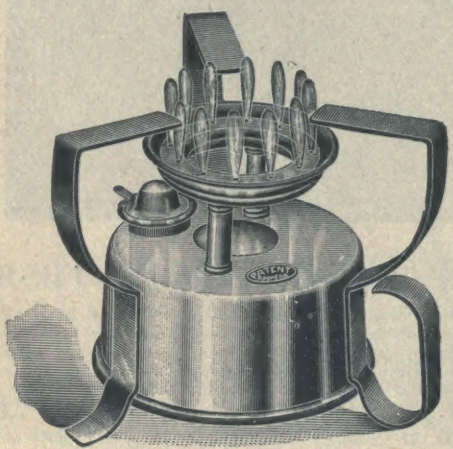
Manufactured only by

Truax, Greene & Company...

Physicians' and Hospital Supplies,

Wabash Avenue,
Chicago, U. S. A.

The Very Thing, Doctor,



You have been looking for ever since Sterilizers have been in use.

Glogau's Alcohol-Gas Stove

MADE IN GERMANY

A boon as a **Sterilizer,** for the Sick-Room, Light Housekeeping or wherever gas is not available or desirable. **Makes its own gas, is portable,** uses **only 2 cents worth of alcohol in an hour. Is odorless, wickless** and weighs only 7½ ounces. Will support a vessel weighing 100 lbs. It **cannot explode;** can be upset without spilling the alcohol and **never gets out of order.**

Sent anywhere, express prepaid, on receipt of $1.00.

The Glogau Co., 21 Quincy St., Chicago.

ANTIPHLOGISTINE

PROPERLY APPLIED IS UNQUESTIONABLY THE STRONGEST THERAPEUTIC FORCE IN SUCCESSFULLY WAGING THE MUCH TALKED-OF

CRUSADE AGAINST PNEUMONIA

ANTIPHLOGISTINE IS A SCIENTIFIC PREPARATION HAVING A DEFINITE PHYSIOLOGICAL ACTION, AND THAT ITS REMEDIAL VALUE MAY BE FULLY REALIZED, IT SHOULD BE USED WITH CAREFUL ATTENTION TO DETAIL.

ANTIPHLOGISTINE

APPLIED WARM AND THICK TO THE ENTIRE THORACIC WALLS, FRONT, SIDES AND BACK, AND COVERED WITH A CHEESE-CLOTH COTTON-LINED JACKET.

PRODUCES IMMEDIATE RESULTS

BY INDUCTION OF CUTANEOUS HYPERAEMIA (FLUSHING THE SUPERFICIAL CAPILLARIES), IT BLEEDS BUT SAVES THE BLOOD. THUS, ALL THE DISTRESSING SYMPTOMS ARE AMELIORATED THE OVERWORKED HEART, THE CONGESTION, THE PAIN, THE RAPID AND DIFFICULT BREATHING ARE PROMPTLY RELIEVED. THE PULSE IMPROVES, THE TEMPERATURE DECLINES, AND REFRESHING REST AND SLEEP ARE INVITED.

THE PATIENT RECEIVES ANTIPHLOGISTINE IN PERFECT CONDITION WHEN THE PHYSICIAN PRESCRIBES ORIGINAL PACKAGES.

MARKETED ONLY IN FOUR SIZES
SMALL, MEDIUM, LARGE AND HOSPITAL
NEVER IN BULK.

The Denver Chemical Mfg Co.

DENVER LONDON NEW YORK

PHYSICIANS

ARE PRESCRIBING

(GLYCO-HEROIN-SMITH)

With Unexampled and Perfect Satisfaction in

Coughs, Phthisis, Bronchitis, Pertussis, Laryngitis, Pneumonia, Asthma,

In therapeutic qualities and physical characteristics, GLYCO-HEROIN-(SMITH) presents the highest progress of Medicine in the treatment of these diseases.

NOTE

GLYCO-HEROIN-(SMITH) is supplied to the druggist in sixteen ounce dispensing bottles only. The quantity ordinarily prescribed by the physician is two, three or four ounces.

DOSE

The adult dose of GLYCO-HEROIN-(SMITH) is one teaspoonful, repeated every two hours or at longer intervals as the case may require.

Children of ten or more years, from quarter to a half teaspoonful.

Children of three years or more, five to ten drops.

MARTIN H. SMITH COMPANY

NEW YORK, N. Y.

Sample and literature free on application.

Sole British Agents:
THOMAS CHRISTY & CO.,
LONDON, E. C.

An Even Hundred Dollars will buy a

BB8 Micro-scope

The most reliable, accurately built, complete, and desirable microscope ever offered for $100.00. Meets every requirement for Bacteriology, Histology, Pathology, Biology, Urinary Work, Etc. Two eyepieces ⅔ and ⅙ dry and 1/12 Oil Immersion Lenses, Abbe Condenser and Iris Diaphragm, and Triple Revolving Nosepiece. Used at Cornell, Harvard, Yale, University of Chicago, College of P. and S., and scores of other prominent laboratories.

CATALOGUE FREE.

Write for Cash Discount.

BAUSCH & LOMB OPTICAL CO.

New York. ROCHESTER, N. Y. Chicago.

THE PRI-MO

LADIES' SYRINGE.

The Only One in its class: Nothing Else Like It.

E. J. HUSSEY & CO.,

80 John Street, NEW YORK.

SEND FOR OUR LIST OF **BARGAINS** IN

MICROSCOPES and OBJECTIVES,

CAMERAS, PHOTOGRAPHIC LENSES, ETC.

We issue such a list at intervals, and if you are at all interested we'd like to have your name and address so that we can send it to you regularly. We buy used instruments, also take them in exchange, so we have always have bargains to offer. If you will write us about anything of this sort that you need, we may be able to save you considerable money.

EDWARD PENNOCK

3607 Woodland Ave., PHILADELPHIA

INDEX TO ADVERTISERS.

Albasulphidi XXX
Ambulatory Pneumatic Splint Mfg. Co..XVIII
Antikamnia Chemical Co.....XVII
Baker, J. R. & Sons Co.....XIX
Bausch & Lomb.....XI
Becton, Dickinson & Co.....XXV
Biogen Co., The.....XXVI
Bovinine Co.....Inside Front Cover
Carliczek, Ottomar Co.....XXIII
Carpenter Chemical Co.....XIX
Castle, Wilmot & Co.....III
Chesterman & Streeter.....XIX
Chloride of Silver Dry Cell Bat'ry Co..XIX
Columbus Aseptic Furniture Co.....XII
Charles N. Crittenton Co.....XVI
Daily Med. Journal.....XII
Davidson Rubber Co.....II
Denver Chemical Mfg. Co.....IX
Empire Mfg. Co.....VII
Faultless Rubber Co.....IV
Fellows, Mr.....XXXII
Fries Bros.....XXXI
Gebauer Chemical Co.....V
Glogau Co., The.....VIII
Goodrich, The B. F. Co.....XVIII
Grosvenor, The J. M. Co.....XXIX
Hartz, The J. F. Co.....XVII, XXIII, XXIX
Hastings & McIntosh Truss Co.....XX
Hocking Valley.....XX
Howard Electric Novelty Co.....XXII
Hussey, E. J. & Co.....XI
Iron Mountain Route.....XXIV
Journal Mich. State Med. Society.....XVI
Kny-Scheerer Co.....XXI
Kress & Owen.....I
Lambert Pharmacal Co.....Back Cover
Lewis Phono-Metric Institute.....XX
Liquid-Air Oxygen XVI
Marks, A. A.....III
McIntosh Battery & Optical Co.....XXXI
N. Y. C. & H. R. R. R.....XVIII
N. Y. School of Physical Therapeutics..XXII
Olds Motor Works.....XIII
Edward Pennock.....XI
Pilling, Geo. P. & Son.....III
Polk, R. L. & Co.....XXXI
Practice for Sale.....XXIV
Scheidel, W. & Co.....XIV
Smith, M. H. & Co.....X
Stearns, Frederick & Co.....XVII
Tagliabue, Charles J.....XXIX
Truax, Greene & Co.....VIII
Upjohn Co.....XV
Van Houten & Ten Broeck Co.....XXVIII
Young, F. E. & Co.....XVIII
Victor Electric Co.....XXVII
Western Leather Mfg. Co.....VI
Woman's Hosp'l of the State of Mo..XXXII

Conclusive Evidence

CHARACTER OF COMMENDATIONS

Woman.

The subject of uterine disease reminds me that during the past six months I have had my attention drawn to a remedy that goes under the name of Dioviburnia, the formula of which is given, and having read the emphatic indorsement of Drs. J. B. Johnson, L. Ch. Boisliniere and H. Tuholske, three of the most eminent professors and practitioners of the city, I was induced to give Dioviburnia a fair and thorough trial, and I am convinced that in this product we have a valuable addition to our armamentarium in our battle against the enemies of the noblest work of God—Woman.

Editorial by the late I. N. Love, M. D., in the "Medical Mirror."

Pains of Dysmenorrhea.

I have given Dioviburnia a fair trial and found it useful as an uterine tonic and antispasmodic, relieving the pains of dysmenorrhea and regulating the uterine functions. I feel authorized to give this recommendation of Dioviburnia, as it is neither a patented nor a secret medicine, the formula of which has been communicated freely to the profession.

L. Ch. BOISLINIERE, M. D.,
Late Professor of Obstetrics, St. Louis Medical College.

Unquestionably of Great Benefit in Dysmenorrhea.

I have used Dioviburnia quite a number of times sufficiently frequently to satisfy myself of its merits. It is of unquestionable benefit in painful dysmenorrhea; it possesses antispasmodic properties which seem to be exerted especially on the uterus.

DR. H. TUHOLSKE.
Prof. of Clinical Surgery and Surgical Pathology, Washington University; Prof. of Surgery, Post-Graduate School, St. Louis.

Neurosine vs. Epilepsy

I prescribed Neurosine for a patient who has suffered from epileptic convulsions for years and it just met the indications in her case perfectly, she has had only one convulsion since she began the use of Neurosine and that was occasioned by her not being able to get a sufficient quantity from her druggist. DR. J. V. SWEENEY,
New York, N. Y.

I desire to thank you for what your valuable medicine, Neurosine, has done for my daughter, subject to epilepsy since a child of fourteen years, every month she always has an attack; commenced treating her with Neurosine, noticed a change after the third dose. Her sleep the first night, after commencing the medicine, was more quiet and restful. My daughter has only had one spell since using Neurosine, which was caused by her neglecting taking the medicine the first of this month, therefore, she had to suffer for it. I thought it my duty to write and tell you the good your medicine was doing, not only to my daughter, but to two other young ladies, suffering from this disease, epilepsy. I spent hundreds of dollars for medicines for my daughter and can truthfully say yours is the first medicine that has kept those dreadful spells off.

Dr. Ella Baker, Indianapolis, Ind.

I am meeting with every success to be asked in the administration of Neurosine (Dios) for epilepsy.

Dr. R. E. Calhoun, Chesterville, Ill.

Full size bottle sent **Free** to Physicians not familiar with the merits of NEUROSINE, and DIOVIBURNIA, they paying the express.

DIOS CHEMICAL CO.

ST. LOUIS

OLDSMOBILE

Oldsmobile
Standard
Runabout
(Curved dash)
Price $650

Oldsmobile
French type
Runabout
Price $750

Oldsmobile
Touring Car
Price $850

Oldsmobile
Touring Car
with Tonneau
Price $950

Experimental cars come and go, but the hand of time has long since set his seal of approval on the Oldsmobile.

The history of automobile manufacture in America has centered around our factory, from the time we produced our first gasoline Runabout over 16 years ago.

Oldsmobile

Runabouts and Touring Cars

Represent the highest type of automobile perfection, and are known in every corner of the world.

For economizing time, the Oldsmobile is not only the best thing on wheels, but the best thing on earth.

In the English Reliability Runs, held Sept. 18-26, 1903, the Oldsmobile took first and second prizes in Class A. No other awards in this class were made—although it met in competition with the most noted machines of European and American build.

For more information about the Oldsmobile line, see our nearest Selling Agent, or write Department

Olds Motor Works, Detroit, Mich.

Member of the Association of Licensed Automobile Manufacturers

W. SCHEIDEL & CO.

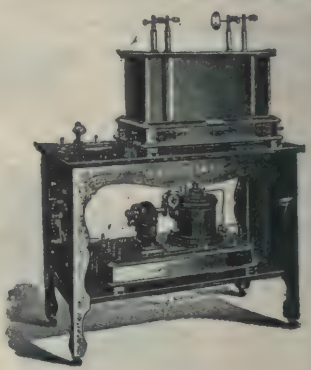
'PHONE, MAIN 1766.

Office and Factory 171-3 E. Randolph St.

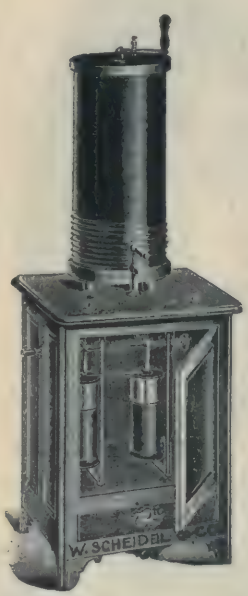
CHICAGO, - - - - ILLINOIS.

The Latest Achievement

X-Ray Coils with **Mercury Interrupters** to operate on **Alternating Current.** (No expensive Motor Generators required.) - - - - - -



The same types of Coil and Interrupter are equally adapted to operate on direct current. OUR products are of the highest type of scientific perfection.



SCHEIDEL'S IMPROVED OUDIN RESONATORS ARE THE BEST.

For High Frequency, General Electrification and Static effects.

The Resonator is thoroughly adapted to operate any size colenoid.

Our production of X-Ray Coils are the most efficient procurable, and they are the most economical in current consumption, for radiographical work and time of exposure is the briefest to date, and the length and volume of spark are absolutely under control of the operator, thereby prolonging the life of tubes. The primary conditions are variable to suit the vacuum conditions of any tube. Our Coils are not effected by climate or climatic changes and are the heighth of simplicity in manipulation. For workmanship, material and finish they are perfect. We manufacture coils of all sizes for any voltage from 250 volts to 50 volts. We also manufacture High Frequency apparatus with ultra-violet electrodes, operatable either from static machine or coil, especially adapted for internal or external treatments. All productions of our manufacture are fully guaranteed, and protected by patents. BEWARE of substitutions and cheap imitations. Information and quotations on request.

THE J. F. HARTZ CO.,

DETROIT REPRESENTATIVES,

103 and 105 Miami Ave.,

Detroit, Mich.

Telephone 616.

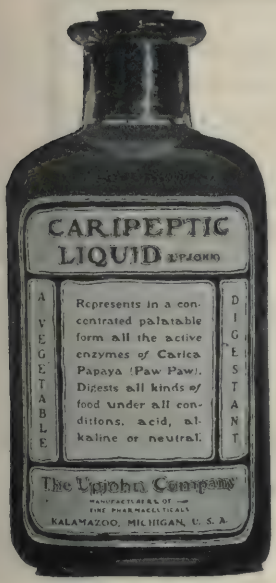
THE J. F. HARTZ CO., Ltd.,

CANADIAN REPRESENTATIVES,

2 Richmond St., East,

TORONTO, ONT.

A Special Introductory Offer


CARIPEPTIC
LIQUID UPJOHN
A V E G E T A B L E
Represents in a concentrated palatable form all the active enzymes of Carica Papaya (Paw Paw). Digests all kinds of food under all conditions, acid, alkaline or neutral.
D I G E S T A N T
The Upjohn Company
KALAMAZOO, MICHIGAN, U. S. A.

Five Dollars for One

Upon receipt of One Dollar we will send once only a full size original package of each of our new specialties, CARIPEPTIC LIQUID, UPJOHN (one pint) and PILL METHYLENE BLUE COMPOUND, UPJOHN (500 pills) express charges prepaid. Send today.

Two New Upjohn Specialties

Caripeptic Liquid (Upjohn)

The Vegetable Digestant

Indicated in all cases of Indigestion, Fermentation, and Malassimilation of Food.

Active in either acid, alkaline or neutral conditions.

BETTER THAN ANIMAL FERMENTS

Prescribe it for some of your chronic Dyspeptics.

Pill Methylene Blue Comp. (Upjohn)

Antiseptic, Anti-Gonorrhœal, Diuretic, Resolvent

Indicated in Gonorrhœa, Gleet, Cystitis, Nephritis, and all diseased conditions of the Genito-Urinary Tract.

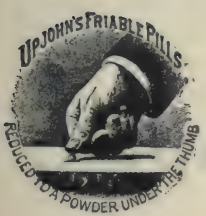
EACH PILL REPRESENTS:

Methylene Blue, Pure, Medicinal,	1 gr.
Acid, Cubebic, Pure,	1-2 gr.
Sodium Copaivate, Pure,	1-2 gr.
Thiosinamine,	1-10 gr.
Ext. Kava Kava,	1 gr.
Powd. Nutmegs,	q. s.

Especially useful in those old, neglected, chronic cases. Prescribe it. The results will please you.

Address Dept. B,

THE UPJOHN COMPANY



MAKERS OF FINE PHARMACEUTICALS

Kalamazoo, Mich. U. S. A.

New York Office 48 Vesey St.

ORIGINATORS OF THE FRIABLE PILL

Tissue Waste

In morbid conditions following La Grippe, Typhoid, Pneumonia, Malaria, operative treatment and other conditions marked by tissue waste; secondary anemia and persistent decline, Colden's Liquid Beef Tonic has shown itself able to satisfy the demand for constructive metabolism. It creates an appetite for food which is taken with avidity and relish. It imparts strength and completeness to the digestive and nutritive processes. Be specific in ordering "Ext. carnis fl. Comp. (Colden)."

Colden's Liquid Beef Tonic

Literature mailed to physicians on request.

THE CHARLES N. CRITTENTON CO.
Sole Agents for the United States,
115-117 FULTON STREET, NEW YORK.

LIQUID-AIR OXYGEN

Free from impurities incident to the chemically made product. Extracted from sterilized air. The only medicinal oxygen available which has not passed through chemical changes in its production.

CARRIED BY

The J. F. Hartz Company

Detroit, Mich.

THE DETROIT MEDICAL JOURNAL.

VOL. III. FEBRUARY, 1904. No. 11.

THE RELATION OF SURGICAL PATHOLOGY TO SURGICAL DIAGNOSIS.*

By JOSEPH C. BLOODGOOD,
Baltimore, Md.

It cannot be denied that surgical technique is far in advance of surgical diagnosis.—In the great majority of instances the failure to cure is due not to the fault of the operative procedure, but to the fact that the operative intervention has been instituted at too late a stage of the disease.

This fault is due to three factors: (a), which, we may call the period of latency of a disease, i. e., the time during which the lesion has not attracted the attention of the host; (b), the period during which the patient delays before seeking the advice of the physician; (c), the time spent by the physician in coming to some conclusion in regard to treatment.

To shorten the period (a), the latent stage, is beyond our power, but fortunately but very few surgical diseases become incurable during this period.

Before attempting to shorten the second stage (b), that is the time during which the individual waits, we should attempt to correct our own shortcomings.

Without much doubt the far better results of the earlier operative intervention will soon reach the public, and shorten the second stage of delay.

The paramount object of surgical diagnosis is to recognize a lesion in that stage in which operative interference will not only give the best chances of a permanent cure, but will accomplish a cure with the least danger to life, and mutilation of the individual.

The hope of future surgery lies, therefore, with the general practitioner.

It is he who should be impressed by undisputed facts based upon the accumulated experience of careful records from large clinics, that permanent results depend most upon early, the very earliest possible, operative interference.

To shorten the period (c) during which time the physician delays, we should seek to instruct ourselves to be content with less positive symptoms. We must base our clinical diagnosis not on a symptom complex which enforces delay, but on the symptoms present at the first examination. In the majority of instances a careful study of the clinical history and a painstaking examination will allow one to decide whether delay is justifiable.

It is unnecessary and dangerous to delay treatment for exact diagnosis, the question is, not what is the exact nature of the surgical disease, but rather, is it or is it not a lesion which will allow delay.

For example, given a patient exhibiting symptoms pointing to some acute abdominal trouble, the question of importance to decide is not so much what the exact lesion is, but, are there sufficient symptoms to indicate an immediate laparotomy. In many acute abdominal lesions a delay even of hours is fatal. A mistake in the locality of the incision which would compel a second opening in another part of the abdominal cavity is trifling as compared with the delay of an hour in order to be more positive in regard to the locality of the lesion. In gastric and duodenal and typhoid intestinal perforations a decision must be made at once in order to save the live of the patient. It is unnecessary to mention the

*Ref. taken from Schonholzer: Beitrage Zur Klin. Chir., 1903. Bd. 39. p. 162 and 442.—

*Read before the Wayne County Medical Society, Detroit, Jan. 7, 1901.

Detroit, Mich., February 15, 1904.

danger of delay in intestinal obstruction, yet to recognize this lesion in an early stage in which the chances of recovery are greatest, one must be content with fewer and less positive symptoms, than have been considered in the past, and a new sign, a rise in the number of leucocytes has been found to be one of the most important aids.

Delay in appendicitis in many instances means death from peritonitis or an abscess which demands drainage. It is far more difficult to diagnose appendicitis in the proper stage for operative intervention, than to perform the operation. It is much easier to instruct students in the operative technique of appendectomy than to teach them the timely recognition of the lesion. Place a recent graduate in a large surgical clinic, and he will become an efficient operator long before he becomes an expert diagnostician.

To illustrate the importance of an earlier working diagnosis I shall confine my remarks this evening chiefly to the diagnosis of tumors, and later further illustrate by a lantern-slide demonstration on diseases of the breast and bone.

The records of a large surgical clinic are pathetic in regard to malignant tumors. Fortunately there is more than sufficient evidence to indicate that a malignant tumor in its early stages is a local disease. This fact should be impressed upon the laity and upon ourselves. As long as cancer and sarcoma are confined to the locality of their birth, they are curable. In addition, many cases of carcinoma are curable, even when metastasis has taken place to the neighboring lymphatic glands. Accumulated experience demonstrates that in the period (a) during which a tumor does not give sufficient evidence of itself to attract the attention of its host, the disease seldom becomes incurable.

The stage (b) due to the delay of the individual unfortunately in many cases is fatal. But when we come to study the clinical histories with care, we are chagrined to find that the incurability of the lesion can be attributed just as often to the physician's procrascination as to the individual's ignorance or timidity.

A decision in regard to a tumor should be made at once. The terms innocent and malignant employed by Bland Sutton in his excellent text-book on Tumors are most appropriate, and we can use them in formulating a law in regard to the treatment of tumors directly opposite to the almost universal law applicable in the trial of individuals accused of crime, namely, a tumor should be considered malignant until every means has been exhausted to demonstrate that it is innocent; also in regard to tumors in contrast to the treatment of individuals, Lynch law is by far the better procedure than "due process," so frequently followed in waiting for developments.

The responsibility of the physician whose advice is sought by an individual in regard to some tumor formation is great if he advises delay, and if during this period the tumor becomes inoperable locally, or destroys the possibility of a permanent cure by internal matastasis, the odium should fall upon him, and not upon the later surgical intervention.

In a clinical diagnosis of tumors we may divide them into three groups: benign, doubtful and malignant.

If a patient first comes under observation when the tumor is undoubtedly malignant there is no question in regard to immediate operation, and should the operation fail to cure permanently the fault lies with the patient.

A clinical diagnosis of a benign tumor should only be made in those cases in which there is absolutely no possibility of a mistake. This is possible in many instances, and an operation need not be advised. All cases of tumor which are not definitely benign or malignant, belong to the second group. In such tumors delay is never justifiable. Immediate operative intervention should be not only advised, but urged.

It is in this group of tumors in which a clinical diagnosis sufficiently positive cannot be made, that the relation of surgical pathology to diagnosis becomes of paramount importance, because our inability to make a clinical diagnosis demands an exploration of the tumor, and at this exploration we should be prepared to recognize the lesion by the gross appearance of the disease exposed by the knife. The object, therefore, of surgical pathology is to instruct in the positive recognition of surgical lesions by their naked-eye appearances. The study of

surgical pathology demonstrates that such a gross pathological diagnosis is possible in the great majority of instances. The thorough investigation of what we may call the clinical history and picture, the gross pathological appearances confirmed by microscopic study, and the ultimate result after operative intervention demonstrate that

1. A certain number of tumors can be recognized from the clinical history and picture as benign; in some of these cases operative removal is not necessary, in others in this group operation is indicated on account of the size or discomfort of the tumor, or because experience demonstrates that these tumors have a tendency to become malignant, and of course there can be no dispute that it is far better to remove them in the benign period.

2. In other tumors it is absolutely impossible to make a positive clinical diagnosis; for this reason an exploratory operation is imperative. The nature and extent will depend upon the character of the surgical disease exposed by the knife. A naked-eye diagnosis is possible in the majority of cases.

3. Unfortunately a large majority of tumors come to the surgical clinic in which there is no doubt in regard to their malignancy. Operation, of course, is indicated, if operable, but the study of ultimate results demonstrates that when a malignant tumor has reached the stage in which there is no difficulty in making a clinical diagnosis, the possibilities of a cure are greatly decreased, and in many instances they have become inoperable because of local infiltration or internal metastasis.

In other words, if we wish to improve the results in the permanent cures, of malignant tumors, we must instruct the public that they should seek the advice of a physician the moment their attention is attracted to a tumor formation. And, the general practitioner must never delay in advising and urging these patients to submit to immediate operation, except in those cases in which there is absolutely no doubt in regard to the benign character of the tumor. And not only this, but that the benign tumor in question has no tendency later to become malignant.

The earlier the individual seeks the advice of the physician, and the earlier the tumor comes to the surgeon, the more will the importance and necessity of the naked-eye recognition of the surgical lesion be demanded by exploratory incision.

It is unnecessary, except in a very few instances to remove a piece of the diseased tissue for microscopic diagnosis. When the tumor has ulcerated and thus exposed a piece could be removed for microscopic examination without difficulty and without danger to the patient, but as a rule in such cases a diagnosis would not be difficult to a properly trained surgeon. In other cases when the lesion is buried an exploratory incision simply to remove a piece for microscopic diagnosis necessitates two operations, and if the tumor is a malignant one, undoubtedly gives opportunity for general dissemination. For this reason, to repeat, in those cases in which a clinical diagnosis is doubtful, the recognition of the lesion by the naked-eye at the exploratory incision becomes imperative.

Instruction in surgery today therefore demands special teaching of the gross pathologic appearances of surgical lesions. (Reference: Methods of Instruction in Surgical Pathology, read before the American Surgical Association in Washington, May 4, 1903, The Johns Hopkins Hospital Bulletin, vol. xiv, August 1903).

The study of surgical pathology demonstrates that it is not sufficient for therapeutic purposes to classify tumors into only two groups, the benign and malignant, but we must recognize among innocent tumors those which have a tendency to become malignant. And we must also recognize that malignant tumors vary enormously in the degree of their malignancy. This knowledge allows less mutilating operations in the less malignant tumors.

DISEASES OF THE BREAST.

In the following lantern-slide demonstration from selected cases of diseases of the breast, I think I can illustrate most satisfactorily the facts which I have previously discussed.

I mean by a clinical diagnosis the conclusions that the clinician arrives at after a thorough history and painstaking examination.

We may divide diseases of the breast clinically into three groups:

(1) A clinically benign tumor. Every tumor which is circumscribed and freely movable, over which the skin and subcutaneous fat are unchanged, and associated with which there is no retraction of the nipple, we must consider clinically benign. A large experience with breast tumors demonstrates that in the early stage a malignant tumor may be clinically benign. For this reason, during every operation for a tumor of the breast clinically benign we must bear in mind this possibility and at the exploratory incision confirm the diagnosis. If the naked-eye appearance demonstrates that we are dealing with a malignant tumor instead of simply removing the tumor which would be indicated if the naked-eye picture proved it to be benign, we would proceed at once to the more extensive operation.

The following benign tumors of the breast are usually clinically benign: intracanalicular myxoma, adenofibroma, simple cysts, cysts with intracystic papillomatous growths, and adenoma. The following malignant tumors have been admitted into the surgical clinic in which a clinical diagnosis could not be made with sufficient positiveness to allow a complete operation without an exploratory incision: cancer cysts (4 cases), adenocarcinoma cystic (5), adenocarcinoma comedo (5), medullary carcinoma (4), circumscribed scirrhus (5), small infiltrating scirrhus (4), large infiltrating scirrhus (10 cases). These figures demonstrate that in 28 out of 305 malignant primary tumors of the breast a positive clinical diagnosis could not be made in nine per cent.

(2) A clinically malignant tumor. This diagnosis may be based upon the palpation of the tumor only, its infiltration of the surrounding breast tissue, on atrophy of the subcutaneous fat, on dimpling, retraction or adhesion of the skin, or on retraction of the nipple.

Unfortunately the majority of malignant tumors of the breast come to the surgical clinic when there is no difficulty in making a diagnosis from the clinical picture, so that the operation can be performed without an exploratory incision. Tubercular and pyogenic infections and infected cysts may, on account of the extension of the inflammatory process to the surrounding breast, subcutaneous fat, skin and nipple, simulate malignant tumors, but as a rule the careful study of the clinical history and certain differences in the involvement of the surrounding tissue will allow a positive differential diagnosis. This will be discussed later.

Among 277 tumors of the breast clinically malignant we were able to make the diagnosis on the palpation of the tumor only in but 14 cases. In all of these the incision into the tumor after the operation proved the correctness of the clinical diagnosis. That such a diagnosis is difficult to make, is shown by the figures, that of 42 cases in which there was nothing but the palpation of the tumor as a basis of diagnosis, in 28 an exploratory incision was made. In 16 cases the diagnosis was made easier by the association of a slightly retracted nipple, in addition to the palpation of the tumor. In 17 cases the nipple was not retracted, but there were sufficient changes in the fat or skin on which to base the diagnosis. In 14 cases there was both retraction of the nipple and slight changes in the skin or subcutaneous fat. These figures demonstrate that in 61 cases the clinical diagnosis could be made on very slight changes of the tumor, subcutaneous fat, skin or nipple. Unfortunately in the remaining 216 out of 305 primary malignant tumors of the breast the clinical picture was so pronounced that the diagnosis could be made by inspection only.

(3) A clinically doubtful tumor. When on palpation we find an irregular area of induration in the breast tissue and associated with it no changes in the subcutaneous fat, skin or nipple, I have used the term "clinically doubtful." Experience has demonstrated that now and then in a perfectly encapsulated tumor, when it is completely surrounded by breast tissue and when palpation is made difficult by excessive subcutaneous fat, the palpating finger feels only an area of induration and cannot make out that the tumor is circumscribed and encapsulated. In other instances the area of induration is due to the infiltration of the breast tissue by an infiltrating carcinoma or an

area of inflammation due to pyogenic or tubercular mastitis. In a few cases of intracanalicular myxoma and adenofibroma, on account of their deep position and the excess of the subcutaneous fat, we have been unable to palpate the tumor itself, and the diagnosis was only made positively after the exploratory incision. Quite frequently simple cysts, when they are small and surrounded by breast tissue, give to the palpating finger a sensation that is very difficult, frequently impossible, to differentiate from the early stage of a small infiltrating scirrhus.

Mastitis, **tubercular or pyogenic,** always in its early stages, gives the sensation of an area of induration. When abscess formation takes place this, of course, is not difficult to recognize.

It is a very important fact to note that in 25 of the 28 cases of malignant tumors of the breast in which an exploratory operation was necessary and in which the complete operation for carcinoma was immediately performed, these patients have all been cured. Therefore so far in our experience we have never observed dissemination of the disease in those very early cases of carcinoma in which an exploratory incision was necessary, provided such an incision was immediately followed by the complete operation.

In the remaining three cases (all cancer cysts) a pathologic diagnosis was not made at the exploratory incision, for this reason only the tumors were removed. After the microscope had demonstrated carcinoma in the wall of the cyst, the complete operation was proposed. One patient has been cured (ten years since the complete operation); a second patient refused the complete operation and died of metastasis; the third died of internal metastasis one year after the complete operation. In this last case both axillary and neck glands showed metastasis and could as easily explain the dissemination as the primary excision of the tumor.

I have given these figures in full to demonstrate the growing importance of the ability to make a naked-eye diagnosis, because as the public is educated to consult the physician earlier after the appearance of a breast tumor, and the physician becomes keener to the vital importance of an immediate operation, the more often will the surgeon find it necessary to make an exploratory incision for a positive diagnosis.

The following figures show the vital importance of the necesity of an immedate operative intervention in breast tumors. In the surgical clinic of Dr. Halsted in the Johns Hopkins Hospital among 13,000 surgical patients between the opening of the hospital in June, 1889, to June, 1902, ther have been 305 cases of primary carcinoma of the breast. Of these 83 cases, twenty-seven per cent., these 83 cases (twenty-seven per cent.) were inoperable when admitted to the clinic. In 29 cases, (about nine per cent.) of the total carcinomata of the breast or thirty-five per cent. of the inoperable tumors, no operation at all was undertaken. In the remaining 54 cases the patient was given the benefit of the doubt and an attempt at complete operation made.

In 222 cases it was considered at the end of the operation that all involved tissues had been removed. For this reason the operation was considered complete.

Curability of Carcinoma of the Breast: In 161 patients on whom complete operations were performed and in which cases the time since the operation varies from 3 to 13 years 47.2 per cent. (76 cases) remain free from recurrence and in perfect health three years. Observed longer than three years 7 cases have developed signs of internal metastasis from 4 to 8 years after operation. This observation demonstrates that the possibility of death from internal metastasis is present up until at least 8 years.

The probabilities of a cure depend upon two factors: the duration of the tumor and the variety of the carcinoma. Over the latter we have no control. On the reduction of the former depends the hope for improvement in the cure of cancer of the breast. When we study the duration of the tumor we find that only 9 patients sought surgical advice within one month after the first appearance of the disease, 5 or over 50 per cent. have been cured; 77 cases came to the clinic from two to six months; 48 from six to twelve months; 89 from one to three years, and 40 from three to forty years. These figures demonstrate that a carcinoma of the breast is longer than usually understood, but it varies with the patho-

logical variety of the tumor. All of the tumors admitted to the clinic in which the duration varied from six to forty years were undoubtedly from their clinical history originally benign (14 cases). It is remarkable to note that four have remained well. These four patients came to the clinic very quickly after observing growth in the quiescent tumor which had been present from 7 to 24 years. The others delayed in tumors which had been present 8 to 40 years.

Studied carefully in every case of carcinoma of the breast there was just as much reason for the patient to seek advice one week after the tumor was first noticed as any time later varying from one month to 40 years. That immediate removal of every tumor of the breast within a week after it is first observed by the patient will result in 100 per cent. of cures cannot be claimed, because as yet we have not the facts, but we have sufficient facts to demonstrate that earlier removal will materially increase the probabilities of a permanent cure.

The Gross Pathologic Diagnosis of Tumors of the Breast: With the hope that in the future a larger number of breast diseases will seek surgical advice before a positive clinical diagnosis can be made, surgeons should prepare themselves to make the differential diagnosis at the exploratory incision.

Mastitis: From reading the clinical histories and from a discussion with many physicians and surgeons I am impressed with the unfortunate fact that mastitis is considered a common disease. The contrary is true. Among 514 cases of diseases of the breast in only 39 was the diagnosis of mastitis confirmed by the pathological study. The most important fact to remember is that in 32 of the 39 cases the mastitis proceeded to abscess formation. In 12 the inflammation was tubercular, in 14 associated with lactation; in six cases it was not associated with lactation, but in these cases we have no pathological report to exclude tuberculosis. From these observations we can conclude that an abscess of the breast not associated with lactation is with the rarest exceptions tubercular in origin, and should be treated not by incision which is sufficient in a pyogenic abscess, but by excision of the breast. In but two of our twelve cases was the tubercular mastitis associated with lactation. Tuberculosis of the breast always begins as a localized area of induration, generally near the nipple. Abscess formation is rapid, the inflammation is not associated with much pain or tenderness, spontaneous rupture with sinus formation takes place early. Eleven cases were admitted to the clinic with one or more sinuses, one with an abscess which had not ruptured. The duration of the disease in ten cases from two to nine months, one case four years, but in this instance sinuses had been present over three years, in one case sixteen years. In the last case the tuberculosis of the breast was apparently secondary to tubercular glands in the axilla; both the nodules in the axilla and breast remained quiescent for fourteen years; then, without apparent reason a nodule in the breast suppurated and formed a sinus. The age of onset of tuberculosis varied from 17 to 35 years. 25 per cent were of the colored race.

Observed in the early stage of induration tubercular mastitis could not be diagnosed clinically except in individuals under 25 years of age whose breasts were not lactating. At this age when carcinoma is so rare only tubercular mastitis could explain the area of induration. At the exploratory incision the knife would expose a zone of fibrous breast in which probably one could find one or more caseous tubercles or expose a small cavity lined by tubercular granulation tissue. The naked-eye appearance of such a cavity lined by tubercular granulation tissue is well illustrated in fig. 1. This patient was a colored female 35 years of age. Two lactations, last 16 years, no mastitis. Area of induration three months, rupture of abscess and sinus formation three weeks. Clinically carcinoma could be excluded, because abscess formation in a small carcinoma must be unique. We have observed infection and abscess formation only when the entire breast is involved in the carcinoma and in which there was no difficulty in the clinical diagnosis. In the case illustrated in fig. 1 an exploratory incision through the sinus into the cavity would have made a positive diagnosis. In this case the glands in the axilla were involved and re-

Fig. 1. Tuberculosis.

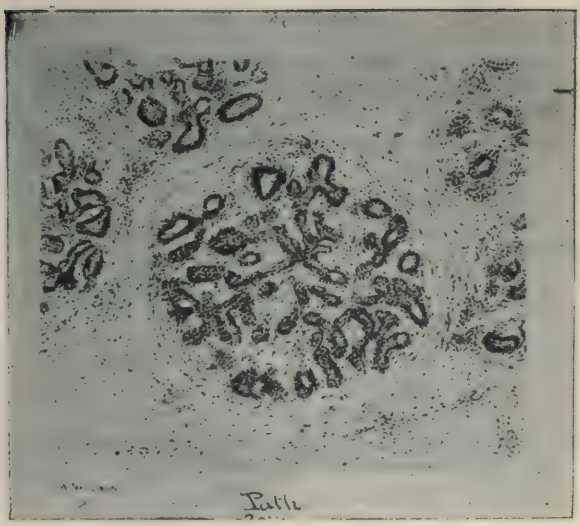


Fig. 3. Chronic Mastitis.

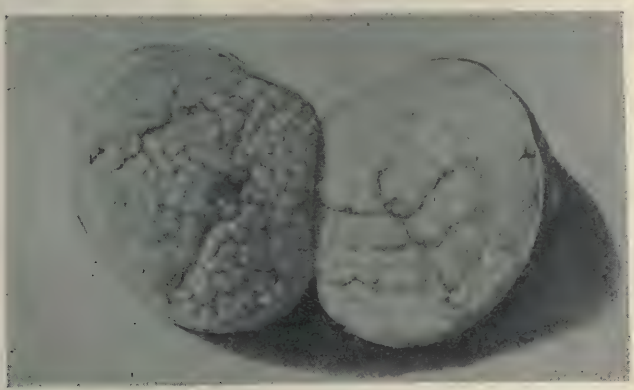


Fig. 4. Intracanalicular Myxoma.

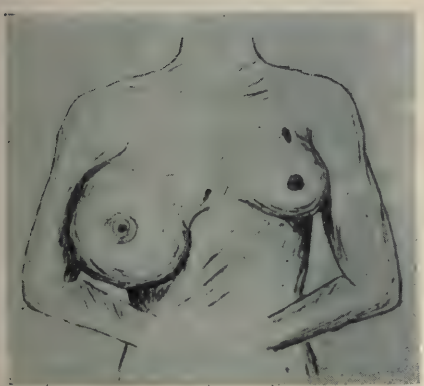


Fig. 5. Intracanalicular Myxoma.

Fig. 6. Adenofibroma

moved with the breast. This patient has remained well (January, 1904) three and a half years. The prognosis after excision of the breast in tuberculosis is unusually good. Eight cases remained well from one to ten years after the operation, one patient who had tuberculosis of the lungs at the time of the operation died seven months later, three cases have been lost track of.

Lactation Mastitis: (14 cases)...Undoubtedly in a surgical clinic lactation mastitis is rarely admitted. The abscesses are opened in the surgical dispensary or the minor operation is performed at the home of the patients. My observations, however, on lactation mastitis have convinced me that an area of induration during lactation should do one or two things, and do this very quickly: form an abscess, or disappear. If this does not take place the area of induration should be explored; it is either tuberculosis or carcinoma. Chronic mastitis associated with lactation without the formation of an abscess is unique. I will discuss this later.

In our 14 cases of lactation mastitis there was no difficulty in the clinical diagnosis in 13 cases. The onset of the disease is apparently most frequently in the sixth to eighth week of lactation. We have never observed a pyogenic mastitis with abscess formation after the fifth month. Even our two cases of tubercular mastitis were observed before the fifth month of lactation. In lactation, the so-called caking of the breast observed in the early days generally disappears. If this induration is observed after the tenth day it usually forms an abscess. Reddening and oedema of the skin should be considered a clinical sign sufficient to indicate an incision. High temperature and especially a leucocytosis above 20,000 should be considered clinical signs urging immediate incision, even if the local signs of themselves are not sufficiently positive. The object of an early incision is to prevent dissemination of the infection throughout the entire breast. At the early exploratory incision the indurated area of breast tissue has a diffuse red appearance, milk does not exude from the cut surfaces, and here and there we see minute white or yellowish points of purulent material. Later, single or multiple larger cavities filled with pus and lined by granulation tissue.

Chronic Lactation Abscess: This is possible, but rare. We have observed but one case. Fig. 2 is a good illustration of the clinical appearance. This patient, a white female 29 years of age, was admitted to the clinic in the fourth month of her first lactation. The swelling in

2 (a)

the upper hemisphere of the right breast seen in the photograph was observed two months ago; it was associated with but little pain and slight tenderness. The

2 (b)

secretion of milk in the right affected breast was increased. The enlargement

was gradual. During the last week pain and tenderness have been more marked. The skin over the swelling was tense, but not inflamed. The subcutaneous fat felt oedematous, the surrounding breast tissue indurated, the tumor boggy, but no fluctuation. From this history and examination one would think first of tuberculosis, because the surrounding tissues felt more like inflammatory than carcinoma infiltration. The possibility of a malignant tumor would have to be considered. A positive clinical diagnosis could not be made. At the exploratory incision one passed through oedematous fat, lactating breast which exuded milk, indurated breast with the absence of milk, exudate, then a zone of hemorrhagic granulation tissue, much narrower than the one shown in fig. 1. The large cavity (4 by 4 cm) contained a viscid, granular, purulent material. I am inclined to think this naked-eye appearance would exclude a malignant tumor. Malignant tumors sometimes surround a cavity filled with blood or broken down cancer tissue, but never purulent material. The character of the contents of the cavity and its lining granulation tissue resemble pyogenic rather than tubercular inflammation tissue. The wall of the cyst was excised. At this time (1895) the histological examination of a section of the wall was incorrectly interpreted, as adenocarcinoma in a lactating breast. For this reason the complete operation for carcinoma was performed. A more careful pathological study has demonstrated that every histological change in the wall of the abscess cavity can be explained by chronic pyogenic lactation mastitis. This patient is well (January, 1904) nine years since operation.

Chronic Mastitis Without Abscess Formation: (7 cases). As stated before this is a very rare lesion of the breast. In two cases the area of induration had no relation to lactation, one case was in a male breast secondary to an axillary infection; the other in a female breast secondary to infusion of salt solution directly into the breast tissue. In the other five cases the area of induration was secondary to a lactation mastitis. This observation, therefore, demonstrates that we have never observed an area of induration not secondary to lactation mastitis which could be explained by primary chronic mastitis.

In two of the five cases secondary to lactation mastitis there was no abscess in the primary lactation mastitis.

One patient was a white female 32 years of age. In her first lactation six years ago the lower half of the left breast became caked, the glands in the axilla enlarged and tender. She, however, was able to nurse the child on this breast. The area of induration in the breast never disappeared. At her second lactation, three years ago, the affected left breast was not used. The patient came to the clinic because five months ago the area of induration became painful. In the lower hemisphere of the left breast there was a nodular area of induration. A clinical diagnosis of chronic mastitis was made and the entire breast removed. Unfortunately there is no pathological report (1892). This patient has remained well (January, 1904) twelve years.

In the second case (S. No. 7475) the patient was 23 years of age and was admitted to the clinic in the sixth month of her first lactation. On the ninth day of lactation there was a typical attack of lactation mastitis in the upper and outer quadrant of the left breast. The fever, local pain and tenderness disappeared in a few days, the area of induration remained. At our examination we could make out on palpation only that the breast tissue in the upper and outer quadrant was firmer and more nodular than the remaining portion of the breast. At this age one could practically exclude carcinoma. After six months tubercular mastitis should have formed an abscess. For this reason operation was not advised. Later the area disappeared and in a subsequent lactation this breast gave no trouble. (January, 1904) six years well.

These two observations demonstrate the great rarity of a persisting area of induration after lactation mastitis without abscess formation.

In the study of 304 malignant tumors of the breast, in 208 the breast had lactated; in 46 there is a history of mastitis; in about 20 of these 46 cases no abscess developed; in not a single one did the area of induration persist.

These figures should impress us that

an area of induration in the lactating breast which does not develop abscess or disappear very quickly should be regarded with suspicion and explored.

In four cases the area of induration remained after the incision or rupture of a lactation mastitis abscess. In one case (Surg. No. 1526) the area of induration in the scar of the abscess had been present 28 years. The patient came to the clinic because during the last few months the area had become painful and increased in size. *Examination*: The skin of the breast contained multiple scars (there had been multiple abscesses). A scar in the upper hemisphere is red and adherent to indurated breast tissue beneath. The nipple is retracted. This has been present since the mastitis 28 years ago. Were it not for the history one would have to make a positive clinical diagnosis of a malignant tumor in this case, but in view of the history an exploratory incision was made. The tissues exposed had the appearance of scar tissue, no cancer alveoli or even breast parenchyma could be made out. For this reason only the breast was excised. Unfortunately there is no pathological report, and the patient has been lost track of.

In the second case (Surg. No. 8684) the area of induration has been present 11 years, has been painful only the last six months. It was so slight on examination that operation was not advised. At the present time (January, 1904), five years, it remains unchanged. The patient is 49 years of age, and she has been advised to have the breast removed, fearing at any time that the area may become carcinoma.

In the third case (Surg. No. 14375, Path. No. 4676) the patient is 26 years of age. The area of induration has been present 15 months since the incision of the abscess in the third month of lactation. In addition there was a small suppurating sinus. The breast was excised. The pathological study demonstrates a diffuse chronic mastitis, great increase of the fibrous interlobular stroma, marked round cell infiltration of the intralobular stroma, and beginning atrophy of the parenchyma. The histological picture is shown in fig. 3.

This is our first observation of a chronic diffuse mastitis confirmed by a pathological study. The diffuse infection is apparently explained by the incomplete opening of the primary abscess. Cultures demonstrated the presence of the staphylococcus pyogenes aureus in the purulent and epithelial debris filling the dilated ducts.

In the fourth case (Surg. No. 13864) the clinical history and pathological findings are practically identical with the preceding case. Female aged 24, area of induration following lactation abscess three years. Operation—excision of induration area only. January, 1904, one year since operation, well.

The possibility of an area of induration following a lactation mastitis abscess is slight, but it is more frequent than after a lactation mastitis which does not form an abscess. The possibility of this area later becoming the seat of carcinoma should not be forgotten. Of the 208 cases of carcinoma of the breast in 46 (about 22 per cent.) there was a history of mastitis during one of the previous lactations, in at least 26 cases an abscess had formed. In only one case did an area of induration persist. This patient (Surg. No. 13765) stated that there was an abscess in the right breast 30 years ago. The area of induration never disappeared. During the last two years she had observed pain and growth, and that the skin had become adherent. A clinical diagnosis of carcinoma was made and the complete operation performed. The pathological examination demonstrated a comedo adenocarcinoma becoming an infiltrating scirrhus with metastasis to the axilla. There is evidence of recurrence, skin metastasis, etc. (February, 1904).

These observations demonstrate that a mastitis in which there is complete resolution apparently does not predispose the affected area of breast to a later carcinoma, but if the area of induration persists, so far in our observations, at least one out of eight cases has developed into carcinoma.

Relation of Lactation to Malignant Tumors: Among 208 patients admitted to the surgical clinic with malignant tumors of the breast and whose breasts had lactated, in only four (about 2 per cent.) was the onset of the tumor associated

with lactation. The duration of the tumor varied from four to nine months, the age of the patient from 39 to 42. In every one of these cases the disease could have been recognized at a much earlier period. In three cases the onset of the tumor was towards the end of lactation, after the seventh month, a time as previously stated, in which mastitis is rare. One of these patients is well 12 years since operation. In this instance the tumor was of four months' duration,—the pathologic variety—adenocarcinoma cystic. In two cases the disease progressed too far for complete operation. The fourth case lived three years and four months, dying of mediastinal metastasis.

I have devoted a good deal of space to the relation of malignant tumors to mastitis and lactation, because apparently it is a subject little understood by the general practitioner.

The Benign Tumors of the Breast. Fortunately the benign tumors with few exceptions can be recognized easily by their naked-eye appearances from the malignant tumors. The greatest difficulty will be experienced in differentiating chronic mastitis and the early stage of simple cyst from carcinoma. For this reason surgeons should embrace every opportunity to become familiar with the naked-eye appearances of these two diseases. The benign tumors of the breast may be classified as follows: intracanalicular myxoma, 46 cases; adenofibroma, 17 cases; simple cysts, 32 cases; cysts with intracystic adenopapillomatous growths, 8 cases; cystic adenoma, 5 cases; comedo adenoma, 3 cases; hypertrophy of the male breast, 6 cases; hypertrophy of the female breast one case (sent to me by Dr. Johnson, of Richmond, Va.)

Before discussing these tumors it is important to note that neuralgia of the breast, i. e., localized pain in an area of the breast tissue is a very rare disease. We have observed localized pain without tumor in only two instances. One patient was not subjected to operation and has been observed 8 years; no tumor has developed; the pain has disappeared after the menopause, one year after our first observation. In a second case a piece of the breast tissue in the area of pain was excised—it showed no pathological changes. This patient was followed two years. The operation gave relief, and no tumor developed.

Pain: Localized pain in the breast should be regarded with suspicion. With the rarest exception it indicates tumor formation. Not infrequently it is the symptom of onset, and in a few cases is observed weeks or even months before the patient feels the tumor. Pain is a most prominent symptom in adenofibroma and simple cysts. Pain is not a characteristic symptom of carcinoma.

Intracanalicular Myxoma: This is the common tumor of the breast of youthful individuals, never observed before the onset of menstruation nor after menopause, and rarely after lactation. In only 16 cases was the onset of the tumor observed after 30 years of age, the oldest patient was 48. This tumor is therefore possible during the cancer age.

Nine cases (20 per cent.) of intracanalicular myxoma were multiple in both breasts, seven multiple in one breast. A multiple tumor in one or both breasts in an individual under 30 years of age, in our experience, has always been an intracanalicular myxoma. Here one could make a positive clinical diagnosis. Operation is not indicated, except when one or more tumors are painful or growing. To remove a single tumor would, of course, not cure the disease. Complete excision of one or both breasts because of growth and pain is seldom indicated, once in our 16 cases.

In the remaining cases either no operation was performed, or only a single tumor removed. These cases have been followed from one to ten years. The tumors left have remained unchanged. Four patients have married, and during the subsequent lactations the tumors have given no discomfort.

A single intracanalicular myxoma is a clinically benign tumor. It always feels encapsulated, usually has a slight lobulation and always an elasticity which I have never felt in any other breast tumor. If the tumor is surrounded by breast tissue its palpatory characteristics are not so distinct, and should the patient be over 30 years of age a positive diagnosis could only be made at the exploratory incision. The tumor can be easily recognized by its naked-eye appearance, well shown in fig.

4. On section the tumor has a fine lobulation, the lobule bulges and has a myxomatous surface. The tumor is due to the hypertrophy of intralobular connective tissue which carries with it the parenchyma of the breast, so that the fine space between the lobules is lined by breast epithelium. In older and larger tumors the epithelial cover frequently atrophies from pressure and the cavity may fill with a serous exudate forming cysts.

Intracanalicular myxoma may grow to great size and involve the entire breast—11 cases. The naked-eye appearance changes somewhat, but in these large tumors there is no necessity for an exploratory incision. They can hardly be mistaken for carcinoma, because when carcinoma reaches such a great size it usually becomes adherent to, or ulcerates, the skin, while the large intracanalicular myxoma remains encapsulated. These large myxomatous tumors of the breast should always be treated as sarcoma, i. e., complete excision of the breast with an area of skin, subcutaneous fat, and underlying pectorials major muscle, because as the tumor grows it has a tendency to become a spindle-and-round-cell sarcoma. While we have observed 11 cases of large intracanalicular myoxoma involving the entire breast, which histologically were still benign, and whose hosts had remained well since operation, we have observed four in which the microscopic study demonstrated them to be sarcoma. In two of these cases in which the muscle was not removed local recurrence and death has taken place, while two which were removed by a more extensive operation have remained well. A clinical differential diagnosis cannot be made, and it is for this reason that I urge a very extensive operation in intracanalicular myxoma involving the entire breast.

Fig. 5 is a good illustration of the large tumor. This patient, 29 years of age, tumor four years, has remained well six years since operation.

Adenofibroma: (17 cases). This is a less frequent tumor than intracanalicular myxoma. Age of onset similar, rarely multiple (only two cases), only three cases over 30 years of age, oldest 47. In one patient in whom the multiple tumors had been present 25 years they were calcified, and I elicited crepitus on palpation. Both breasts were removed, because the tumors were becoming painful. Adenofibroma as a rule can be recognized clinically by the age of the patient (under 30), by the smoothness and hardness of the oval tumor. As a rule the tumor is more painful and tender than the intracanalicular myxoma, less lobulated, and not elastic. In older women it would be difficult to differentiate it from the early stage of a circumscribed scirrhus. At the exploratory incision the tumor can be recognized by its distinct encapsulation, and on section it does not differ from ordinary fibrous breast tissue, except we see more parenchyma and more dilated ducts. Fig. 6 is a good illustration of an adenofibroma removed from the centre of the breast of a girl 16 years of age; symptom of onset pain six weeks; uniform enlargement of breast due to central position of tumor four weeks; Excision of tumor, patient well three and a half years. Fig. 7 illustrates the gross appearance of an adenofibroma present in Dr. Johnson's case of hypertrophy of the female breast.

Adenofibroma should always be removed, because it is painful and apparently has less tendency to remain quiescent than intracanalicular myxoma. The earlier they are removed the less mutilation of the breast. Histologically this tumor resembles chronic mastitis and diffuse hypertrophy of the male and female breast. We have never observed these tumors to become sarcoma or carcinoma. Both, especially the former, seem possible.

Hypertrophy of the Female Breast: A rare lesion, especially in this country. There should be no difficulty to recognize it clinically. Both breasts are always involved. Unilateral hypertrophy in the female is always due to tumor formation. Kirchheim (Archiv f. klin. Chir., 1902, Bd. 68, page 582), in reporting his observations collects 41 cases. There are two varieties: *virginal hypertrophy* in which the onset of the disease takes place in relation to puberty; and *gravidity hypertrophy* in which the disease takes place in pregnancy. There is no treatment except removal of the breast. Dr. George B. Johnson, of Richmond, Va., was good enough a few weeks ago to send me the huge breasts which he had removed from

a white girl 16 years of age. The hypertrophy began at the age of 12, two years before the onset of menstruation. This was my first opportunity to study the pathology of this lesion. The gross and histological findings correspond to Kirchheim's and are practically identical with adenofibroma and hypertrophy of the male breast.

Hypertrophy of the Male Breast: In our six cases only one breast has been involved. Age of onset 20 to 62, duration of tumor three weeks to two years, in four cases less than three months. The enlargement is symmetrical, never excessive, skin normal, in one case nipple retracted. In this case the clinical diagnosis could not exclude a carcinoma. The gross and microscopic pathology resembles adenofibroma. All the patients have remained well since removal of the breast. Fig. 8 is a photograph of a section through the nipple and breast. The dark areas represent the dilated ducts and parenchyma, the branching white lines the interlobular stroma.

Cystic Adenoma: (5 cases). A rare tumor. Age of onset 33 to 51, duration of tumor nine months to ten years. In none of these cases had the breast lactated. All of the cases clinically benign. At the exploratory incision tumor encapsulated; on section multiple minute cysts, some filled with clear or yellow fluid, others with granular epithelial debris, a few with minute papillary growths. Fig. 9 illustrates the gross appearance better than a description. In three of these cases (patients aged 26, 30 and 33, tumors four, five and ten years, respectively), only the tumors were removed. One patient has been lost track of, two are well (January, 1904), five years. In a fourth case, because the entire breast contained other cysts the breast was removed. This patient is well (January, 1904), six years. In the fifth case, after a histological study of the tumor it was considered that it might be an adenocarcinoma. For this reason the complete operation for carcinoma was performed. The remaining breast tissue and axillary glands were normal. This patient is well (January, 1904), ten years.

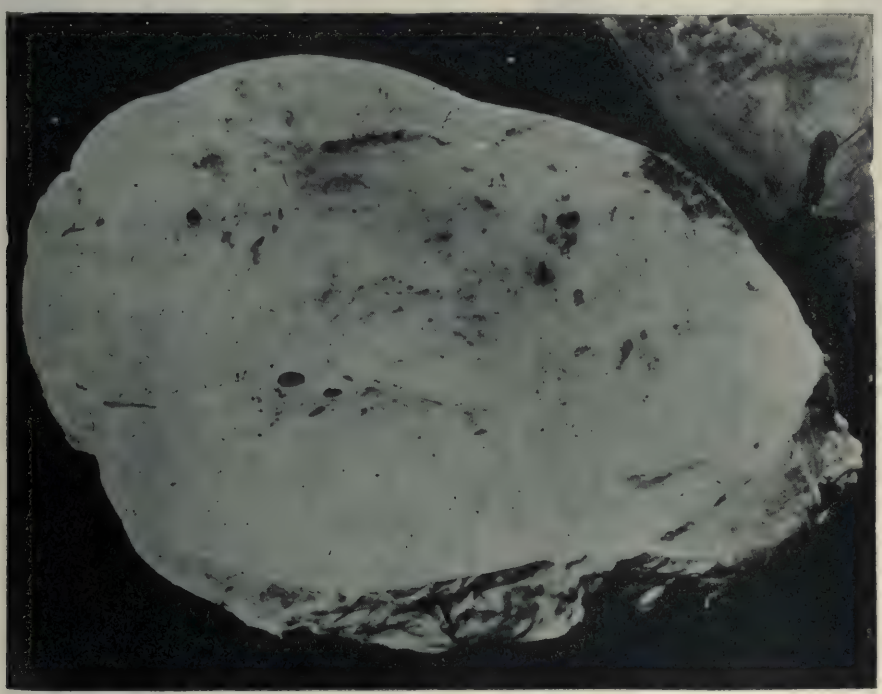


Fig. 7. Johnson's case, photo. of the tumor

Adenocarcinoma Cystic: While we have observed but five benign cystic adenomata, we have during the same time removed seventeen which have become

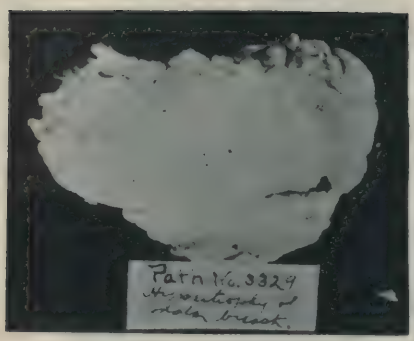


Fig. 8. Hypertrophy of male breast.

Fig. 9. Cystic adenoma.

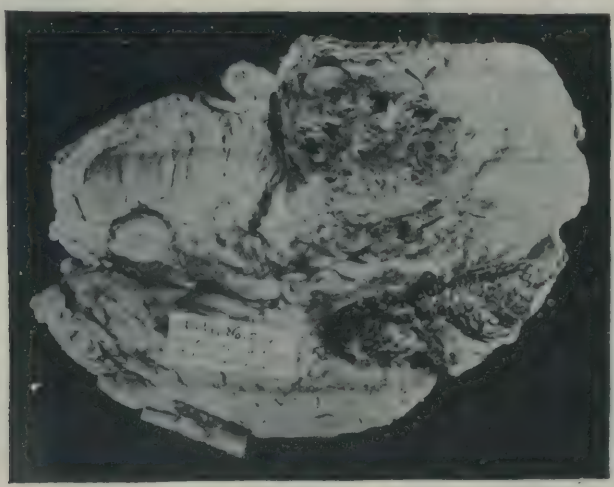


Fig. 10. Adenocarcinomacystic.

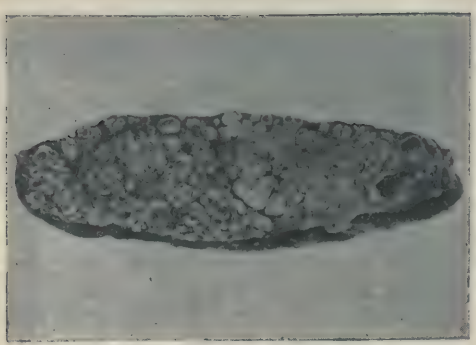


Fig. 11. Comedo adenoma.

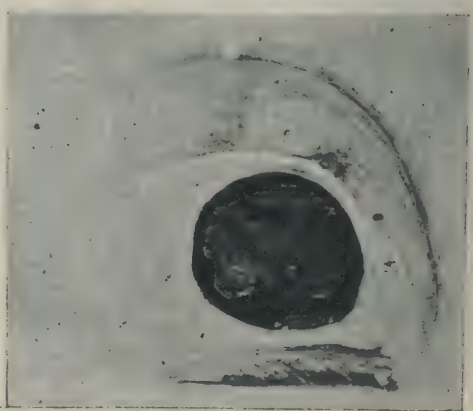


Fig. 12. —Cyst with intracystic pap. growth.

malignant, demonstrating the malignant tendency of the cystic adenoma. The malignant tumor not infrequently is clinically benign or doubtful. In five cases exploratory operations were performed. The malignant tumor can be recognized by the infiltration of the breast about the tumor and by seeing in the tumor solid epithelial alveoli replacing the cysts. The gross appearance is well shown in fig. 10. The prognosis for a permanent cure after the complete operation for adenocarcinoma cystic is unusually good, about 70 per cent.

Comedo Adenoma: This is a rare and interesting tumor, but I am inclined to think, it must be considered a carcinoma. It apparently arises from the epithelium of the ducts. We have observed two cases in which the tumor was circumscribed and there was no metastasis to the axillary glands. Dr. McCallum, of Canada, sent me a third case. In these three cases the histological appearance throughout the tumor is uniform. This is well shown in fig. 11. At the exploratory incision the tumor is circumscribed, but not encapsulated like a cystic adenoma or the intracanalicular myxoma, or adenofibroma. On section one sees round, granular alveoli in a fibrous stroma, on pressure the granular material in the alveolus is expressed like a worm. These three patients on all of whom complete operations were performed, have been cured. More frequently we see the picture of a comedo adenoma mixed with a scirrhus of medullary carcinoma (10 cases). Of these 66 per cent. have been cured.

Cysts with Intracystic Adenopapillomatous Growths: (8 cases). The pathognomonic clinical sign is a discharge of blood from the nipple. This was present in six cases, it is frequently the symptom of onset (3 cases). In one the patient sought surgical advice because of discharge of blood from the nipple, and the tumor was not made out until the exploratory incision. The age of onset varies from 30 to 64 years, the tumor from five to fifteen years. Clinically the tumors were benign in seven cases, i. e., a freely movable, circumscribed, round mass. Quite frequently there is fluctuation and a discharge from the nipple when the tumor is compressed. In one case, on account of infection of the cyst, the skin was inflamed and adherent, giving it the appearance of a malignant tumor. Fig. 12 illustrates the cyst filled with blood, surrounded by normal breast tissue and fat. Fig. 13 shows the papilloma growing from the wall of the cyst after the blood clot was removed. You will notice that the base of the papilloma is entirely circumscribed by the cyst wall.

These tumors have a tendency to become malignant. We have observed during the same time eight cases in which the intracystic papilloma had infiltrated into or beyond the cyst wall and had become malignant. In seven cases, however, there was no doubt as to the diagnosis from the clinical picture. In one instance the tumor was clinically benign, and the infiltration was recognized at the exploratory incision.

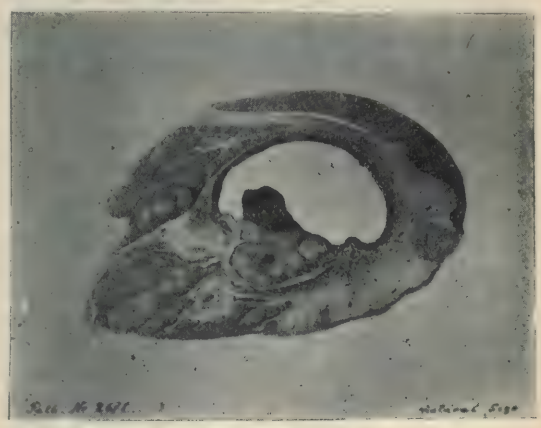


Fig. 13. Same.

The eight cases of benign cysts with intracystic papilloma have remained well since operation; in three only the tumor was removed, in three the breast. In two complete operations were performed. In this tumor, unless it is very small and can be removed without injury to the nipple the entire breast should be amputated. In doubtful cases, in older women, the complete operation should be performed.

The percentage of cures in the malignant tumor is about 80 per cent.

Medullary carcinoma, circumscribed and infiltrating scirrhus carcinoma, should they come under observation, when the tumor is clinically benign or doubtful can be recognized without difficulty at the exploratory incision. The important tumors to study clinically and

gross pathologically are the benign and malignant tumors which I have discussed. Every single tumor of the breast in a woman over 25 should immediately be subjected to operative interference.

I have left the discussion of simple cysts for a second paper.

923 N. Charles Street.

To the Editor Detroit Medical Journal:

It has been charged repeatedly by sensational newspapers within the past few days that the antitoxin producers of this country have formed a trust and greatly advanced the prices of diphtheria antitoxin without any regard whatever for the welfare of the public. As it is important that the medical profession should know the exact truth, we ask you to allow us space to present the facts to your readers.

The manufacturers of antitoxin have not formed a trust or combination.

The price of antitoxin has not been advanced, but it has been materially *reduced.*

Formerly diphtheritic antitoxin was marketed in two grades called by us "special" which was a concentrated serum, and "regular" a much weaker product. For obvious reasons, the majority of the medical profession preferred the "special" serum, its much smaller bulk per 1,000 units more than offsetting, in their opinion, the necessarily greater cost.

There has also been considerable complaint from the medical profession about the multiplicity of packages and sizes offered, we ourselves listing ten (10), and it was believed that a reduction of this number would be in the interest of everyone concerned.

For these reasons, and others of equal weight that we could enumerate, we determined to discontinue the weaker serum and supply only the concentrated, or highest -grade product after January 1st, 1904. At the same time we discontinued the 500 unit so-called immunizing dose, since many able members of the medical profession now believe that 1,000 units should be given for immunizing purposes. At the same time we reduced the price of the concentrated serum as is shown by comparing the present retail price of this product with that of last year:

	1000 units	2000 units	3000 units	4000 units
1903 Price..	$2.25	$4.00	$5.75	Not Offered
1904 Price..	2.00	3.00	5.00	$6.50

Of course there are liberal discounts to druggists from these prices.

The charge that we have raised the price of antitoxin is therefore seen to be absolutely false. Not only have we reduced the price but we are supplying now only the highest grade serum that can be produced by expensive equipment and the most advanced scientific methods, believing that the interests of the public and the medical profession are alike conserved by our doing so. Our house introduced the syringe-package of serum to the physicians of America and we have ever striven to co-operate with the medical profession as far as possible. It is, therefore, we believe, sufficient to call attention to the above facts, which completely refute the absurd and maliciously circulated charges which have called forth this statement.

Very truly yours,

FREDERICK STEARNS & CO.

Detroit, Mich., January 13, 1904.

"Founders' Day," the annual celebration in the medical department of the University of Michigan, will be observed this year on February 22. Prof. Fleming Carrow, of the university faculty, will deliver an address on the life and works of his late predecessor, Dr. George E. Frothingham, of Detroit.

DETROIT MEDICAL JOURNAL

A MONTHLY EPITOME OF
PRACTICE AND THERAPEUTICS

FRANK BURR TIBBALS, M. D., Editor

COLLABORATORS
AUGUSTUS WRIGHT IVES, M. D.
JOSEPH SILL, M. D.
HENRY JASPER HARTZ, M. D.
DON M. CAMPBELL, M. D.

WALTER CHANNING BOYNTON, Business Manager.

SUBSCRIPTION PRICE, $1.00 PER YEAR.
SINGLE COPIES, 15 CENTS.

NOTE.—We do not assume responsibility for the opinions of contributors.

The management cannot undertake to return rejected manuscript unless full postage for the purpose is submitted with the contribution.

Address all communications to 103 and 105 Miami Avenue, Detroit, Michigan, U. S. A.

Vol. 3. DETROIT, MICHIGAN, FEBRUARY, 1904. No. II.

Surgical Pathology.

We gladly give space in this issue to the important article by Professor Bloodgood, of Johns Hopkins University, in the belief that the results of ten years of special study will greatly interest and instruct the general practitioner in whose hands lies in great part the hope of earlier operative interference in malignant diseases.

It is almost universally true that surgical technique is far in advance of surgical diagnosis and that the progress of the immediate future must be along the line of early diagnosis and prompt operative measures in many surgical conditions. Especially is this true in malignant growths, where early extirpation before metastasis occurs offers the best chance of saving life.

As Professor Bloodgood points out, valuable time is lost, by the patient in seeking medical advice and by the physician in making a diagnosis.

The time during which the patient waits after discovery of a tumor or new growth can only be shortened gradually by a process of education of the laity much as has been going on in favor of early operation in appendicitis. The wide-spread acceptance by the general practitioner of the surgeons' plea for early diagnosis in acute appendicitis and other acute abdominal lesions has led to a general adoption of these views by the laity, with the resultant saving of many useful lives.

The teaching of surgical pathology has been neglected in many of our medical schools so far as it leads to the early diagnosis of tumors and many practitioners are too prone to wait for the totality of symptoms which make diagnosis absolute, letting the golden operative moment slip by.

Breast tumors, except in young girls or during lactation, are always suspicious and while some are benign many are malignant at the beginning, while other tumors benign at first become malignant. Hence the safety of the patient demands exploratory incision of the breast in most cases before a diagnosis can be made symptomatically, removal of the tumor alone if clinically benign, or a more radical operation of malignant.

The general adoption of this procedure when the patient first seeks medical advice would save many lives now lost and we recommend a careful reading of Professor Bloodgood's masterly resumè of the subject.

Much Ado About Nothing.

Recently much indignation has been expressed by the newspapers, supported somewhat by medical men who have not taken the trouble to familiarize themselves with the facts, over the "Antitoxin Trust," an alleged combine of manufacturers to eliminate the cheaper grades and raise the prices of the product in general.

Outside of a few municipal laboratories, supplying a demand largely local, all the antitoxin used in this country is sup-

plied by a few large drug houses which embarked in the enterprise purely for the advancement of science, when its use was only experimental and its manufacture attended with financial loss.

That the antitoxin business is now a source of considerable profit detracts not at all from the debt which the medical profession owes these enterprising, progressive firms, which now have some millions invested in equipment for serum manufacture, although the use of other serums besides the antidiphtheritic is still spasmodic and experimental.

Granting that serum manufacture has now become a source of revenue, it remains to be proven that the net return is excessive, despite the high cost to the consumer.

No one can visit one of these biological departments where serum is made without being deeply impressed with the lavish outlay of money for the sole purpose of safeguarding the purity of the product; and yet, the process cannot be cheapened without danger of contamination.

All the manufacturers have published emphatic denials of any combination to raise prices, although it is evident that a general understanding exists as to the uniformity of strength and price.

One such letter, which we publish elsewhere, shows clearly that the concentrated serum is cheaper than before, while the manufacture of the unconcentrated grade has been discontinued.

The growing belief that 1,000 units should be the minimum immunizing dose has led to the withdrawal of the 500 unit size and the strong preference for concentrated serum shown by the demand has led to the determination to market only the high-grade product. Nevertheless, withdrawal of the unconcentrated grade will work hardship to poor people and necessitate larger expenditures for antitoxin by municipal Boards of Health, from whence comes now most of the demand for the more bulky package. We understand that the manufacturers have already conceded this point and will continue to make, largely for Health Boards, the cheaper grade in immunizing doses. This concession should close the discussion, for so universal and potent a remedy should have the widest use possible, and the producers are interested equally with the medical profession in extending rather than limiting its use.

Municipal and State Laboratories have been suggested by the press as a remedy for this alleged "Trust;" but until public health matters are divorced from political control things are better as they are. To be sure, New York and Philadelphia make their own antitoxin, but so did St. Louis, with disastrous results. We had better first demonstrate the general efficiency of municipal and state ownership of the telephone or telegraph before engaging wholesale in an enterprise so closely in touch with the sacredness of human life.

EDITORIAL NOTES.

The annual meeting of the Michigan State Medical Society will be held at Grand Rapids, May 25, 26, 27. Members desiring to contribute papers are requested to send title before March 10, to the Secretary of the Section before which he desires to appear.

Dr. H. B. Britton, Ypsilanti, Secretary of Section on General Medicine.

Dr. John W. Moore, Atlantic Mine, Secretary of Section on Surgery, Ophthalmology and Otology.

Dr. Florence Huson, 506 Cass Ave., Detroit, Secretary of Section on Obstetrics and Gynecology.

In deference to the greatly increased membership the meeting will for the first

time cover three days. With the House of Delegates transacting the irksome routine of business most of the members can devote the entire time to the section meetings and to pleasant social intercourse. The Grand Rapids fellows are royal entertainers and every man who breaks away from "dull care" to attend will be amply repaid.

A number of physicians were examined before the state board of registration in medicine in Michigan at the Russell House, Detroit, on January 21 last, with a view to ascertaining whether or not they were practicing in accordance with the provisions of the Nottingham Medical Act. Deputy Attorney-General Henry E. Chase acted as counsel for the board, and was assisted by Attorneys Alex. C. Grosbeck and Seward L. Merriam, both of Detroit. About a dozen doctors from all over the state were examined, several of them being represented by counsel. The board reserved its decision until the Grand Rapids meeting, to be held May 25, 26 and 27. The members of the board present were: Dr. Joseph H. Cowell, of Saginaw, president; Dr. B. D. Harrison, of Sault Ste. Marie, secretary; Dr. William Bell, of Belding, Dr. George E. Ranney, of Lansing, Dr. Henry B. London, of Bay City, Dr. Joseph B. Griswold, of Grand Rapids, Dr. Walter H. Sawyer, of Hillsdale, and Dr. Oscar Le Seure, of Detroit.

Dr. Edmund Andrews, a well known physician and prominent citizen of Chicago, died January 22 last at Mercy Hospital, Chicago, an institution which he had himself founded in 1868. He was born in Putney, Vt., April 10, 1824, and his early education was secured in New York state. His college was the University of Michigan, from which he was graduated with the class of 1850. He took both the medical and the literary course, and after graduation assumed the position of professor of anatomy on the faculty. In 1854 he went to Chicago, and associated himself with Rush Medical College. About 1859 he founded the Chicago Hospital and about the same time he founded the Chicago Academy of Sciences, of which he was president for a number of years. He served with distinction as surgeon in the Civil War, and was prominently identified with Chicago's public activities after his settlement in that city.

Dr. Andrews took a lively interest in literary matters, and was a prolific writer on scientific subjects. He was greatly interested in geology as a study. His first wife was a Detroit woman, Miss Eliza Taylor, who died in 1875. In 1877 he married Mrs. Barrett, a sister of his first wife, and she survives him, with five children. Three of the sons are practicing in Chicago. Dr. Andrews was a member of the important medical societies and a man of wide acquaintance and influence.

Several important changes are noted in the brochure of the American Electro-Therapeutic Association, recently issued. The requirements for membership provide that a "candidate for election to ordinary fellowship in the American Electro-Therapeutic Association must be a graduate of a recognized medical college, and a member in good standing of his regular county and state societies." At the meeting last September it was voted that the admission fee should be dropped, and that the five dollars accompanying the candidate's application for membership should constitute the first year's dues, being the only expenditure required of the newly-elected member. The new regulations provide that the Executive Council be empowered to elect candidates to full membership immediately after investigation as to eligibility. By means of this provision candidates may

be admitted to the privileges of membership, within thirty days after the receipt of their application, instead of being obliged to wait for concerted action at the next ensuing annual meeting. The next (fourteenth) annual convention will be held at St. Louis, Mo., on Tuesday, Wednesday, Thursday and Friday, September 14 to 16, when the scientific meetings will be held in the mornings only, in order to afford members an opportunity of visiting the Exposition in the afternoon, and possibly in the evenings.

Montreal is suffering from an aggravated epidemic of typhoid fever, and it is conservatively estimated that there are 1,000 cases in the city and in the half dozen smaller municipalities adjoining it. The hospitals have issued notice that they are unable to care for any more cases of typhoid, and trained nurses in the Canadian city are all engaged. It is claimed that the intake pipe of the water works is too near the drainage pipes of the Protestant Insane Asylum, but officials of the water company deny this. A possible explanation for the prevalence of the disease lies in the fact that farmers have been obliged to water their cattle from ponds, owing to the failure of other ordinary sources of supply, with consequent contamination of the milk. The disease is unusually prevalent among young people, and the health authorities regard the situation as a grave one.

Dr. H. B. Baker, secretary of the Michigan State Board of Health, believes that he has discovered a questionable practice in the literature freely issued by an electrical house in Illinois. The firm sends out a circular letter, asking for a recommendation of an electric bath manufactured by it, the form of testimonial appearing in the letter. Underneath it are the words: "Please send another bath by express." Dr. Baker takes the ground that a physician's signature to such a testimonial might be held as an order for a bath, and that many physicians would rather pay the cost of one than to have the public learn that they had signed a testimonial for something with which they were unfamiliar. He warns physicians to be careful in this matter.

An Indiana physician believes that by means of properly controlled influences on negro infants he can prevent them from turning dark. It is known that negro children are born white, or nearly so, and the reason assigned by the Indiana man for their growing dark later in life is that the skin of the negro is extremely sensitive, throwing out large quantities of pigment as a means of protection. His plan for testing his theory is to have the room in which the experiment is to be carried out draped and furnished in red, with red lights and all attendants dressed in red garments. The infant undergoing the experiment is also to be clad in red. Under these conditions he believes that the child will retain its original white color. The experiment promises to be interesting. We trust that no convalescent from the tremens ward will ever get into the experiment room by mistake. A relapse would be practically assured.

Philadelphia furnishes a case of speedy trouble for a man alleged to be practicing medicine without a legal right to do so. The man in question called himself a "cereopathic physician," and was summoned to attend a boy suffering with what he diagnosed as "diphtheria, quinsy and paralysis of the kidney." The family wanted a consultation, and Dr. William J. Manning was called by the "cereopath." On arriving at the house of the

patient, the physician told the other man that he was a "fake," and the dying boy's parents ejected the "cereopath" from the house. Later on, the boy died and on hearing the testimony the coroner committed him to jail.

Physicians who feel that the chief portion of their estate will be book accounts may take some comfort from the outcome of a suit begun by the late Dr. Emma N. Warne, of Chicago, against the estate of the late Francis T. Wheeler. The heirs of Dr. Warne received $12,500 as the result of the suit. The meat of the story and the moral thereof is that Dr. Warne actually commenced suit, when she believed that she could secure the money in no other way. The trial was a long one, but the outcome was most satisfactory to the plaintiff's heirs.

Dr. Arabella Kenealy, a practitioner of London, hurls some scathing invectives at the corset as a means of producing a temper as waspish as the waist of the victim. In a recent issue of *The Nineteenth Century and After*, she presents staggering statistics on the evil wrought by the compression-harness, and states her belief that woman will never take her rightful place in the world until she discards the abomination. Perhaps her contention is well founded, but we do not recollect learning that among the people whose women do not compress their waists there is a marked feminine ascendency.

Drake University's new medical school at Des Moines, Ia., was formally opened on January 29 last. Addresses, congratulatory and historical, were delivered by Dr. George H. Simons, of Chicago, editor of the *Journal of the American Medical Association*; Dr. D. C. Brockman, of Ottumwa; Hon. N. E. Coffin; and President Hill M. Bell, of Drake University. Dr. D. S. Fairchild, dean of the university's medical department, was unable to be present, and his paper was read by Dr. Schooler. A large audience, chiefly composed of physicians, was present.

During 1903, Harper Hospital, Detroit, accomodated 3,376 patients upon whom 2,782 operations were performed, an operative record surpassed by but few American hospitals. In the contagious department 147 cases of diphtheria were treated with but 9 deaths. The X-ray is used almost uniformly as an aid to the surgical treatment of malignant disease, some 1,800 treatments being given during the year.

Butler, Pa., is now free from the grasp of the typhoid epidemic which recently swept the city. The Philadelphia nurses and physicians have gone back to their homes. Two monuments might be raised as the result of this city's experience—one to the loyal and unselfish men and women who gave themselves up to the work of relief, and another to the evil conditions which allowed disease to assume such startlingly wide-spread power. The first monument should be the more handsome, the second the more striking in appearance.

The Wayne County Medical Society, on January 14, elected Drs. E. L. Shurly, H. W. Longyear, W. S. Anderson and W. F. Metcalf, members of the House of Delegates of the State Society, also Dr. L. E. Maire as Director, vice Dr. A. E. Holmes, resigned.

The daily press credits Dr. B. R. Shurly, of Detroit, with a heroic rescue of two maids, carrying one under each arm, during a recent small fire at his residence.

We have always maintained that physicians should be ambidextrous.

Even the indolent Mexicans have recognized the importance of prophylactic health measures for the public good, and the health department has issued several thousand earthenware bowls, containing a mixture of sulphur and saltpeter and suspended by wires in such a way as to admit of their introduction into wells. The authorities hope in this manner to kill off the mosquitoes occupying the wells. The expense of the outfits is borne by the health department of the republic.

A recent issue of the *Medical World* recalls an old and often efficacious method of removing a foreign body from the throat, in the absence of suitable instruments. A string is secured to the eye of a smooth button, which is swallowed, edgeways, by the patient. Subsequent removal draws the button flat across the throat and the intruder is dislodged.

We are in receipt of a beautifully produced booklet from the "Medical Brief," containing photographs of its contributors during 1903. Many of the best known medical men in the country with whose work we are familiar adorn the pages. The remark is often made that doctors are a good looking lot of men. We have the proof herein.

Last January the fiftieth anniversary of the founding of the New York Infirmary for Women and Children was celebrated. The institution was founded by Dr. Elizabeth Blackwell, the first woman doctor in New York, and has grown steadily in importance until it has reached its present condition.

The amount of a note given for medical services by an unlicensed practitioner is held, in Citizens' State Bank vs. Nore (Neb.), 60 L. R. A. 737, to be recoverable by a bona fide purchaser, notwithstanding the provisions of a statute prohibiting the practice of medicine without a license.

Dr. Henry L. Tolman, a microscopist of wide reputation, died at his Chicago home, 919 Hinman avenue, on January 14 last, at the age of fifty-five years. He was a member of the faculty of the Chicago College of Physicians and Surgeons.

Milwaukee fears a general invasion of hydrophobia, which has assumed an epidemic form. Dr. Nicholas Senn, of Chicago, has written to the Milwaukee board of health, advising the board to see to it that every dog in Milwaukee running at large shall be promptly killed or muzzled.

In response to the expressed desire of a committee appointed by the Wayne County Medical Society, the manufacturers of anti-toxin in Detroit have announced their willingness to make the serum in 500 unit lots.

At a recent meeting of the Iroquois Memorial Association in Chicago, A. E. Hull, chairman of the organization, announced that he had assurances that 2,000 Chicago physicians would subscribe largely to a fund for the erection of a ten-story emergency hospital on the site of the Iroquois theatre, in memory of those who had lost their lives in the fire in that building. Mr. Hull announced that one physician had promised to give $5,000, and added that if the theater owners could be induced to surrender their lease the owners of the land would donate it to the city for memorial purposes. Relatives of the dead will form a committee to further the plans for the hospital, which, it is estimated, will cost in the neighborhood of $2,000,000.

NEW INSTRUMENTS AND DEVICES.

Mention of new instruments and devices in this department is entirely complimentary and articles illustrated are judged on their merits.

We invite manufacturers and physicians to send us matter suitable for publication under this head. A description of the device and an electrotype or half-tone with a base not greater than two and five-eighths inches should be sent.

Always mention the price of the article in question.

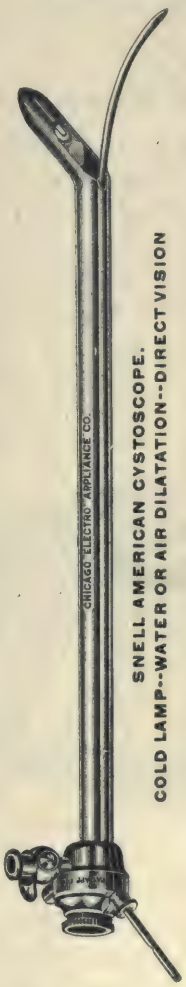
The management cannot undertake to return cuts unless postage for same accompanies the letter with which they are sent.

Snell Catheterizing Cystoscope.

When they are well made, American-made surgical appliances have at least one undoubted advantage over those made abroad, in that additional parts, when necessary, may be supplied without vexing delay. The instruments we illustrate herewith is well and strongly made of the best material, and can be depended on at the right time. It is admirably adapted for examining the condition of the bladder by direct inspection; for determining the condition of the ureters and kidneys; and in the treatment of urethral fistula.

The lamp attached is cool, and burning of the bladder wall is prevented. Direct vision is permitted through a plain glass, which gives a normal and upright view of the conditions inspected, while an attachment permits of air dilatation or inflation, doing away with the possibility of the operator's view being obstructed by the presence of blood, pus or mucus. If desired, water inflation may be employed, and an achromatic lens system insures an enlarged and magnified field of vision.

One feature upon which the manufacturers pride themselves especially is that the liability of withdrawal of the catheter from the ureter in removing the cystoscope is reduced to a minimum. A grooved auxiliary tube is provided, into which



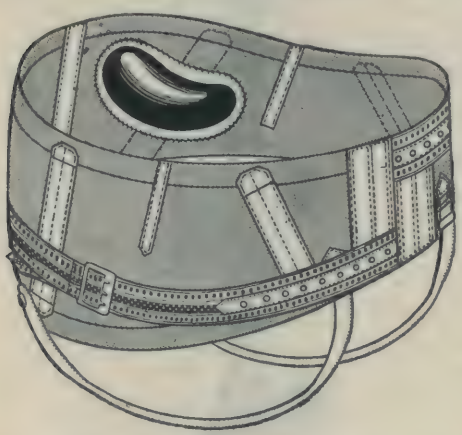
the catheter guide or tube is first introduced before insertion of the first catheter. When the instrument is passed into the ureter, that portion which lies within the guide is gently outside of the instrument, which is then ready for the insertion of the second catheter. The ultimate withdrawal of the cystoscope does not disturb either catheter.

The instrument, complete in case, including achromatic lens, two ureter catheters and two electric lamps, retails

for $60.00. Without achromatic lens for air dilatation, $45.00. The instrument is sold for either male or female work, and the manufacturers give a choice of size of 24, 27 or 30, French scale.

Floating Kidney Bandage.

Physicians who are desirous of applying palliative treatment to a case of floating kidney will find much satisfaction in the use of the bandage illustrated herewith. The compress pad shown is kidney-shaped, which has shown itself to be the best for this purpose. The bandage may be made of duck or drilling, but for the most comfortable results should be constructed of woven elastic. In the

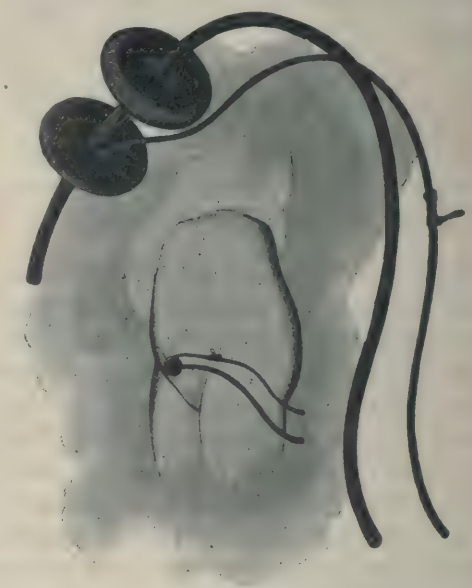


type shown the fastening at the back is very simple, and as an aid to effectiveness the straps lap at the back and are brought forward to be fastened directly over the pad itself. By this means, while the bandage itself is elastic and therefore yields somewhat to the motions of the body, the non-elastic straps maintain a constant pressure on the compress-pad, which is covered with kid and stuffed with hair or cotton.

These bandages are made in five grades, which range in price from $5.00 to $10.00.

Supra-Pubic Drain.

This efficient aid to the surgeon in the after-care of a case, is designed for the draining and irrigating of any cavity through an incision. It consists of a tube with an inside diameter of 1-4 inch and 1-16 inch wall, 18 inches long, and made of very soft red rubber. This has an inflatable rubber bulb near the top of the tube, 3½ inches from the end. Below this is a movable pneumatic cushion, or pad, which locks the drain when it is once



in position. The method of use is as follows: After cutting off the top of the tube to suit the case under consideration, the bulb is pushed into the bladder and inflated to the desired extent through the tube attached to it. The pneumatic pad is now pushed against the abdominal wall as tightly as may be necessary to prevent the tube from slipping in either direction. The space between the two bulbs includes both the abdominal and the bladder wall, aiding adhesions, and the inner bulb will prevent leakage along the outside of the tube and the escape of urine into the prevesical space.

The price of the drain, complete, is $2.50.

McBurney's Colostomy Plug.

Dr. McBurney has approved this device for plugging the opening of an artificial anus or any perforation into a cav-

ity. It consists of an inflatable bulb at the end of a ¼ inch tube, 18 inches long, which is provided with an adjustable pneumatic lock. The general method of use is similar to that of the supra-pubic drain, elsewhere mentioned.

The colostomy plug retails for $2.00.

In a recent address before the Ontario Medical Association, published in the *Canadian Journal of Medicine and Surgery*, Dr. N. A. Powell, of Toronto, took occasion to say a number of good things concerning the "Business Aspects of Medical Practice." Among others, he said: "It is bad business, it seems to me, to drop behind the procession for want of a good working library. *Two or three good journals are absolutely necessary.* In addition to these, the purchase and right use of the latest and best work, first in one specialty, and then in another, will help wonderfully to keep a man out of the ruts. Now, what do we find in the office of the average physician, let us say, down in Kentucky? Things are better here, of course. If there were any Kentuckians here I would say, down in Tennessee. Out-dated text-books, journals bound up and never opened after they come back from the bindery, and subscription sets forced by glib-tongued agents upon their unfortunate purchasers. Only this and nothing more! What wonder that such a library, so-called, should become a factor in the failure of its owner rather than an aid to his success?

"Trying to do modern surgery with an archaic outfit, or to do modern practice in offices unattractive, inconvenient, miserably equipped, dirty, disagreeable and depressing, are causes tending strongly toward failure.

"Let me ask a plain question; is a man honest with himself or with those who trust him, when he attempts serious surgical work with outfit and preparation inviting disaster? If stinginess, and not poverty, has limited the equipment, how grave is the responsibility. Look, if you will, into the ordinary obstetric satchel! Is it ready for the conducting of an aseptic confinement, and for meeting all the emergencies of child-birth? Let each one of us, when he sits alone with his conscience, and seeks for the cause of sepsis, answer this question."

Surgeon-General Walter Wyman, of the United States Army, and president of the sanitary commission of the American republics, spent some time in Mexico last month, in conference with Dr. Liceaga, chief of the Mexican superior board of health, concerning the possibility of the two countries uniting in the passage and enforcement of uniform quarantine measures. Many honors were accorded him on his visit to Mexico City.

Dr. Nicholas Senn, of Chicago, is said to be about to go to Japan, where he is to assume charge of the surgical department of the army of that country. He has but recently returned from Tahiti.

PROGRESS OF MEDICAL SCIENCE

The Control of Prostitution.

Heidingsfeld (*Journal A. M. A.*, January 30, '04), contributes interesting data tending to show that regulation and control of prostitution by municipal authorities favors rather than prevents the spread of venereal disease. His conclusions are drawn from a large venereal practice in Cincinnati, which for three years past has had a regime of control of prostitution by the Board of Health, entailing registration, weekly examination, police serveillances and compulsory hospital treatment or a work house sentence. Despite this careful supervision of public prostitutes he finds a noticable increase in venereal disease rather than a marked decrease, which alone would demonstrate the effacacy of control. The certificate of inspection boldly displayed guarantees no immunity from infection but lessens the precautions men would otherwise take. No examination, however rigid, can determine that a woman is unable to transmit gonorrhœa; and with a work-house or hospital sentence confronting her a prostitute will conceal mucous patches and other venereal lesions from the examiner which she would confess to her own physician. The clandestine prostitute who is equally apt to spread disease is not reached by any system of inspection. Two most potent factors in preventing prostitution are the fear of infection in men and the fear of pregnancy and resultant exposure in women. Illusive security from disease incident to reliance upon immunity promised by the bill of good health favors male prostitution and the facility with which abortion is secured in many cities fosters female prostitution. F. B. T.

Immunizing Value of Antitoxin.

Graham (*Canadian Practitioner and Review*, December, '03), contributes interesting data from the records of the Toronto Hospital for sick children. During the six months preceding the adoption of a routine injection of 500 units every 21 days, 42 cases of diphtheria developed in the hospital while during the year following but eight cases developed. These prophylactic injections were given to about 600 children who were inmates of the hospital during this period. The practically absolute immunity thereby produced is shown by the contrast between the eight actual cases and the 84 which were reasonably to be expected. No uniform deleterious effects were noted other than an urticaria or rash found in about 10 per cent. of the cases and, rarely, a swelling of the joints. As a rule, no constitutional effect could be attributed to the serum, although a slight temperature variation was sometimes synchronous and one case showed temporary renal irritation. The author does not consider the objection that its use renders children more liable to gastro-intestinal disturbance as well founded. F. B. T.

Dermoid Tumor of the Mastoid.

Dr. Richard H. Johnson (*Journal of Eye, Ear and Throat Diseases*, November-December, 1903), reports a case of dermoid tumor in a case referred to him for microscopical examination. The rarity of the occurrence of such a growth makes the report worthy of note. Woman, 32 years old, married, multipara, had had a small tumor on left mastoid process since birth. Only six months before its removal it began to grow rapidly, having

given no previous trouble. Its proximity to the auricle had produced suppuration in the latter, the result of continued friction. It was removed under cocaine anæsthesia by a superficial dissection. It was an inch and a half long and one inch thick; the surface was rough, of a lobulated appearance and covered with long hairs. Its outer covering was of epithelium, with three distinct layers, squamous, polygonal and ovoid, from without inward. This layer divided the outer part of the tumor into clearly defined nests or cavities, each containing some glandular and some fibrous tissue, and on the surface hairs and hair follicles were visible. Sebaceous glands were found, but no sweat glands.

Teratomata, or dermoid tumors, are given different definitions by different authorities. The size varies from that of a pea to that of a man's head, and as a rule they grow slowly. True teratomata are usually located in the sacral region, when found, but are occasionally located in other parts of the body. The most diverse tissues are found in them. Connective tissue, fat, cartilage, bone, muscle, peripheral nerves, central nerve substance, cysts lined with epithelium and tubular glands are sometimes found. The growth examined by Dr. Coffin exhibited the characteristics of a tumor chiefly made up of fibrous tissue.

H. J. H.

Relations of the Upper Air Passages to Diseases of the Gastro-Intestinal Tract.

In a paper before the Society Dr. L. A. Coffin, of New York (Society Reports, *Laryngoscope*), remarked upon the large number of his clinic patients who complained only of post-nasal catarrh. The disease of itself was a local one, and complaint was made of stoppage of the nostril on the side next the pillow, due to hypertrophy of the posterior ends of the inferior turbinate. Irritation was the fundamental element in the etiology, and this gave rise to hyperæmia. Owing to the fact that the anterior nares frequently escaped the disease entirely, Dr. Coffin concludes that for the cause of irritation one must look elsewhere than to the inspired air. Structural deformity of the nose, he suggests, may also be practically discarded, as children who are generally free from this condition were quite as frequently affected with this difficulty as were adults. Dr. Coffin believes the chief cause of the pathological condition to be the irritation coming from eructations of gas from the stomach, and that a logical stand is taken when a practitioner consideres chronic follicular pharyngitis and naso-pharyngitis as secondary to chronic indigestion. Better results, he states, would follow from treatment founded on this assumption, giving due care to a condition of hyperacidity, which is often overlooked because the patients give no symptoms pointing to gastric disorder.

Dr. J. A. White, of Richmond, and Dr. W. L. Ballenger took issue with Dr. Coffin's paper, on the ground that the subject was possible of consideration from an entirely different stand-point, i. e., that digestive disturbances were occasioned by swallowing the irritating secretions from the naso-pharynx, rather than that the nasal conditions were caused by faulty digestion. Dr. Ballenger took up the matter of the complexity of the naso-pharyngeal tissue, of comparatively low vitality and hence more liable to inflammatory disturbances. The lymphoid tissue of children, he suggested, was especially prone to inflammation from a slight cause, and hence it did not follow that the frequency of occurrence of post-nasal catarrh in children is caused by the eructation of gases from the stomach and the regurgitation of irritating fluids.

H. J. H.

Foreign Body in the Nose for Thirty Years.

Dr. W. L. Ballenger, of Chicago (Society Reports, *Laryngoscope*), presented for inspection a specimen of what at the time of removal was supposed to be a rhinolith. The case had been one of foul-smelling suppuration of the nose, with a history of destruction of the eye thirty years before by the explosion of a gun. When the incision was made and the mass removed, it was found that its core consisted of the breech-pin of a musket.

H. J. H.

OPHTHOLMOLOGY—

Eye-Strain and Functional Disorders.

Charles A. Wishart, M. D., of Pittsburg (*The Pennsylvania Medical Journal*, September, 1903), draws forcible attention to the influence of eye-strain induced by hypermetropia (far-sightedness) astigmatism and the various anamolies of muscular balance of the eyes as a patent cause of various functional disorders, especially of the nervous and digestive system, and in fact of any part of the economy which is dependent upon brain impulses to carry on its work satisfactorily.

In the normally constituted eye, having perfectly balanced eye muscles, the expenditure of nerve force is at its minimum, but if any departure from the normal standard in either of these particulars is present an increased amount of nervous energy is called for and some other particular function is bound to suffer from the brain-fag thus induced.

That an individual sees well is no sign that there is not present in his case eye-strain. This is one of the strongest points for the general practitioner that this writer makes.

Besides headache, which is a well recognized result of eye-strain, the writer draws attention to the fact that epilepsy, chorea and various other affections of the nervous system may have their etiologic factor in eye-strain.

Myopia (near-sightedness) is not responsible for as much eye-strain as are the other refractive errors.

A very small departure from the normal in the matter of astigmatism is enough to produce very decided eye-strain with widespread reflex manifestations.

D. M. C.

Surgical Treatment of Myopia.

H. V. Wurdemann, M. D., and Nelson M. Black, M. D. (*The Journal of the American Medical Association*, November 28, 1903).

These authors give statistical tables of 7,160 eyes refracted under a mydriatic; of these 282 or 3.9 per cent. suffered from myopia; to this is added simple compound myopic astigmatism, making in all 1,209 eyes or 16.9 per cent. with myopia. Of a total of 8,776 eyes refracted, there were 78 eyes (.888 per cent.) with myopia of over 10 dioptres.

Operation was suggested in four instances and accepted in three and the result in the six eyes operated upon was very satisfactory.

Many cases of high myopia are also highly astigmatic, and a careful correction of both these defects will frequently bring about a satisfactory vision, in which case operative interference is not demanded.

Cases are reported in detail, showing the advantage of surgical procedure in suitable cases.

The operations performed have been discission of the lens followed by extraction of the swollen lens matter if glaucomatous complications should intervene, and discission of the capsule if it should be opaque after absorption of the lens matter.

The advantages gained by operation are:

(1) Increase in visual acuity.
(2) Enlargement of retinal images.
(3) Enlargement of visual field.
(4) Increased range for near work.
(5) Lenses are lighter.
(6) Eccentric visual rays are excluded.
(7) Much more extended use of eyes.

Resumè.

1. Surgical treatment of high myopia should be limited to those cases of 12 dioptres or over, in which correcting lenses are not comfortably worn.

2. Young adults are the most favorable subjects for its performance.

3. Cases complicated by organic ocular diseases are not applicable.

4. The dangers of operative interference are more than counterbalanced by the results to be obtained.

D. M. C.

The annual meeting of the council of the Michigan State Medical Society was held at the Hotel Ste. Claire, Detroit, on January 26 last. Reports showing earnest work along all lines were presented. About 1,800 members were reported, and finances were stated to be in a satisfactory condition. Sixty county societies are on the roll, taking in eighty of the eighty-three counties in the state.

Dr. Andrew P. Biddle, of Detroit, was re-called secretary of the society, and will continue his work as editor of the society's organ, the Journal of the Michigan State Medical Society. Dr. George W. Moran, of Detroit, was elected treasurer of the organization. Those present at the meeting were: Dr. W. F. Breakey, of Ann Arbor, president of the society; Dr. Andrew P. Biddle, of Detroit, secretary of the society; Dr. Leartus Connor, of Detroit, chairman of the council; Dr. W. H. Haughey, of Battle Creek, secretary of the council; Dr. A. E. Bulson, of Jackson, Dr. George D. Carnes, of South Haven, Dr. D. E. Walsh, of Grand Rapids, Dr. M. Willson, of Port Huron, Dr. S. I. Small, of Saginaw, Dr. H. B. Landon, of Bay City, Dr. W. T. Dodge, of Big Rapids, and Dr. Theo. A. Felch, of Ishpeming.

Last year in New York there were 9,260 deaths from pneumonia and 7,570 from tuberculosis. This report, added to the amazing figures on pneumonia mortality reported from all over the country, leads us to believe that something must speedily be done to check this disease, else it will run away from us. The treatment offers so many different points of view, there is so much danger of collapse on the part of the overstrained heart and the local congestion is so hard on the patient, that the doctor must mentally at least set his teeth hard together when he comes to fight it. No doubt the unprecedented prevalence of the disease this year will do its share toward increasing somewhat our knowledge of the treatment, but it is a hard foe to successfully combat.

The first issue of the Journal of Infectious Diseases, published in Chicago, appeared on the fifth of last month. The publication has been endowed to the extent of $375,000 by Mr. and Mrs. Harold F. McCormick, and will confine itself to the field indicated by its title. Numbers are to be issued at intervals, not specified, as the amount and nature of material submitted will permit. The editors are Dr. Ludwig Hektoen and Dr. Edwin O. Jordan, of the Rush Medical College faculty, with Dr. Frank Billings, Dr. F. G. Noog and Dr. W. T. Sedgwick as assistants. The first number contains eleven articles by physicians and scientists.

Dr. W. D. Engle, of Denver University, and Justine Gaynes, a Denver chemist, are reported to have secured 1-200 of a grain of radium from the mineral known as carnotite, found in Paradox Valley, Col.

BOOK REVIEWS

International Clinics. A Quarterly of Illustrated Clinical Lectures and Especially Prepared Original Articles on Treatment, Medicine, Surgery, Neurology, Pediatrics, Obstetrics, Gynecology, Orthopedics, Pathology, Dermatology, Ophthalmology, Otology, Rhinology, Laryngology, Hygiene and Other Topics of Interest to Students and Practitioners. By leading Members of the Medical Profession Throughout the World. Edited by A. O. J. Kelly, A. M., M. D., Philadelphia, Pa., with the Collaboration of Wm. Osler, M. D., John H. Musser, M. D., Jas. Stewart, M. D., J. B. Murphy, M. D., A. Mc Phedran, M. D., Thos. M. Rotch, M. D., John G. Clark, M. D., James J. Walsh, M. D., J. W. Ballantyne, M. D., John Harold, M. D., Edmund Landolt, M. D., Richard Kretz, M. D., with Regular Correspondents in Montreal, London, Paris, Berlin, Vienna, Leipsic, Brussels and Carlsbad. Volume IV. Thirteenth Series, 1904. Philadelphia, J. B. Lippincott Co., 1904. Pages, 304. Price, Cloth, $2.00, Net.

This volume closes a series which has been unusually important and instructive, owing to the large number of results which individual research has brought forth in the past twelve months. There is much that is practical and of immediate use in the contributions of this book, which have been made by some of the best known of our modern practitioners. Dr. Louis Julien, of Paris, whose experience in St. Lazare hospital has given him unsurpassed opportunities for clinical material, writes of the use of subcutaneous injections of mercury for syphilis, and gives some striking results of his treatment. For some time Dr. Julien has defended the use of injections of calomel in conjunction with mercury in syphilitic treatment, and he now takes his stand more firmly than ever on this important matter.

Dr. Louis Faugeres Bishos contributes another practical paper on the clinical manifestations and treatment of chronic nephritis, and in collaboration with Dr. DaCosta, his co-worker in the department of surgery in the Jefferson Medical College of Philadelphia, Fr. Wm. W. Keen reports a case of interilio-abdominal amputation for sarcoma of the ilium, together with a synopsis of previously reported cases. Dr. Francis H. Davenport, whose works on gynecology are very well known, describes the non-surgical treatment of displacements of the uterus, and the department of neurology is enriched by a contribution from Dr. Alexander James, on "Hemiplegia." The interest recently evoked and still active in the Lorenz operations is recalled strongly by Dr. John Lincoln Porter's paper on orthopedic work, and some clinical material of value is found in the department of ophthalmology. Under the head of pathology, Dr. Joseph McFarland discusses the present state of our knowledge of immunity.

A number of well executed illustrations embellish the pages, and a complete general index to authors and subjects is found in the back of the book. We can conscientiously congratulate Dr. Kelly on his achievement in making a very successful number of the closing volume of the thirteenth series, and shall watch with interest for the next quarterly issue of the books. The publishers deserve congratulation as well.

Social Disease and Marriage. Social Prophylaxis. By Prince A. Morrow, A. M., M. D., Emeritus Professor of Genito-Urinary Diseases in the University and Bellevue Hospital Medical

College, New York; Surgeon to the City Hospital, Etc., Etc. Pages, 385. Price, Cloth, $3.00, net. Lea Brothers & Co., Publishers, 706-710 Sansom St., Philadelphia, 1904.

This is a strong book, which, while it is directly addressed to the medical profession, might be read with perhaps even greater profit by a member of the laity. Dr. Prince is too old a practitioner to have many illusions about the prevalence of venereal, or, as he calls them, "social" diseases, and he looks at the subject in a fair-minded and impartial manner, having for his object the greatest good to the greatest number. After setting forth in clear and forceful language the unfortunate conditions attendant upon the existence of venereal disease in the home, he takes up the legal aspect of the diseases in its relation to the marital bond. This is a subject with which we believe comparatively few practitioners are much acquainted, and they may find a great deal that is helpful in this section of the book alone.

From the moral standpoint, he takes up the question of the relation these diseases bear to the moral code, and discusses what are the duties of the husband, the wife and the physician in the event of their existence. By way of possibly lessening the prevalence of the "social diseases" he suggests concerted action on the part of the state, the churches, the profession and the parents of young people. He believes, and in our opinion rightly, that much of the suffering from these maladies arises from ignorance on the part of the young. If the adolescent could have the dangers of such matters clearly pointed out to them when they are at the susceptible age, the chances are greatly in favor of their avoiding them. The book is handsomely-published, with wide margins, excellent paper and good type.

The Blues (Splanchnic Neurasthenia.) Causes and Cure. By Albert Abrams, A. M., M. D., (Heidelberg), F. R. M. S., Consulting Physician, Denver National Hospital for Consumptives, The Mount Zion and French Hospitals, San Francisco; President of the Emanual Sisterhood Polyclinic, Etc., Etc. Illustrated. Pages, 232. Price, Cloth, $1.50. E. B. Treat and Company, Publishers, 241-243 West 23rd St., N. Y. C., 1904.

Dr. Abrams has had an extended experience in the treatment of neurasthenia and in the course of his studies has come to the conclusion that the origin of "the blues" is referable to a congestion of the intra-abdominal veins. His pursuit of the subject has given him a firm belief in the efficacy of abdominal muscular development as a means of combating the effects of this congestion, and he furnishes some interesting data which are the results of a large number of experiments. Dr. Abrams blames an enfeebled nervous system for attacks of neurasthenia, and suggests some practicable expedients for overcoming this condition. As a special treatment he describes the use of an elastic abdominal exerciser, in the use of which the patient steps forward against the pull of the elastic, and back in obedience to its tension, the elastic belt being placed successively at different portions of his abdomen. Some excellent results are tabulated.

The next is unquestionably written by a man with strong ideas, and a gift for unique expression. For example, he says: "Christian Science is suggestion plus absurdity; divine healing, suggestion plus faith in God; Dowieism, suggestion plus prayer and holy terror; Weltmerism, suggestion plus imagination, pure; magnetic healing, suggestion plus imagination, also; osteopathy, suggestion plus massage; homeopathy, suggestion plus nothing; allopathy, suggestion plus tubfuls of drugs that either kill

or cure; regular or rational medicine, suggestion plus the best common horse sense available, or suggestion and medicine mixed with the best quality of brains obtainable."

The Self-Cure of Consumption without Medicine. With a Chapter on the Prevention of Consumption and Other Diseases. By Charles H. Stanley Davis, M. D., Ph. D., Member of the Connecticut State Medical Society, Physician to the Curtis Home for Old Ladies and Children, Etc., Etc. Pages, 170. Price, Cloth, $.75. E. B. Treat & Co., Publishers, 241-243 West 23rd St., New York, 1904.

Dr. Davis furnishes some interesting statistics on consumption's etiology and some startling figures on its mortality in different states. He says that he has little confidence in drugs for the treatment of diseases, thereby ranging himself on the side of a number of our best thinkers. The key-note of his treatment is expressed in the words "an intelligent and persistent application of hygienic, dietetic, and, if possible, climatic measures," and he is of the opinion that no malady requires such individual care and treatment as does consumption. Quacks and their all-promising but non-performing remedies and specifics are roundly scored and the pivot upon which the book turns is the sentence: "The chief reliance is to be placed upon the scientific use of air, sunshine, light, water, food, rest, exercise, etc.,—that will improve nutrition and increase vital resistance." The details of this system are later worked out in a satisfactory manner. There is a good chapter on sanatorium treatment of consumption and two appendices are furnished, one treating of prophylaxis in consumption and other diseases, and the second furnishing a table giving the nutritive value of animal and vegetable food. The diet regulations are perhaps a trifle more rigorous than most physicians would feel they could expect their patients to live up to, but Dr. Davis evidently prefers to lean to the safe side.

How to be Successful as a Physician. Hear-to-Heart Talks of a Successful Physician with his Brother Practitioners. Pages, 123. Price, Cloth, $.50; Paper, $.35. Church Publishing Co., Meriden, Conn., Publishers.

We have always had a notion that there could be no set rules for success in anything. Success, like many other things very well worth having, depends somewhat largely on circumstances that are not under individual control; and medical success, like other brands, is somewhat elusive as to definition. The author of this little book conceals his identity, but unless we are mistaken he is a physician of Meriden, Conn., who has written a number of other books on medical subjects. He takes some pains to define success, but at the last he does not give us an infallible recipe for securing it. There are a number of general comments on the deportment of a physician in relation to his fellow practitioners and his patients that have sound, solid sense in them; but the book does not by any means bear out the promise of its title.

Prof. Behring, of Berlin, who has so consistently opposed the theories of Koch, is urging the German Reichstag to adopt an imperial law providing that every calf born in Germany shall be vaccinated with specially prepared human tuberculosis bacilli as soon as it is three months old. He also proposes that every ten-quart can of milk shall have a gramme of formalin added to it. More prophylaxis!

ANTIKAMNIA QUININE & SALOL TABLETS
ANTIKAMNIA & SALOL TABLETS
LAXATIVE ANTIKAMNIA TABLETS
THE ANTIKAMNIA CHEMICAL COMPANY
ST. LOUIS, MO., U. S. A.
ANTIKAMNIA & CODEINE TABLETS
ANTIKAMNIA & QUININE TABLETS
SNOW CRYSTAL
LAXATIVE ANTIKAMNIA & QUININE TABLETS
ANTIKAMNIA & HEROIN TABLETS

Stearns' Serums Are Prepared Under Ideal Conditions

The horses are housed in a $25,000 brick stable, provided with everything to make it perfectly sanitary and comfortable—steam heat, electric lights, perfect ventilation, cement floor, sanitary feed and water pails, iron stalls. A force of grooms exercise and care for the horses, keep the stable in order and flush it twice daily with hot water; an expert veterinarian is constantly in charge of this part of our biologic plant.

Our biologic laboratories are equally modern. No equipment is too expensive—no precaution too trivial—if it can in any way tend to improve our products. Our serums are of the highest quality, simply because this end is kept constantly in view at every stage of their production. **Stearns' Diphtheritic Antitoxin** prevents and cures diphtheria. **Streptolytic Serum** effectively combats the streptococcus. They have never been equaled.

Stearns' Serums are always put up in the best direct-injection package. **We devised and introduced the first serum syringe-package, and marketed it for nearly three years before any other house** abandoned its antiquated serum container. This is the **fact**—well-known and unchangeable—about the greatest advance in the history of American serum production.

Tell your druggist **"IT MUST BE STEARNS',"** when ordering serum or vaccine.

BIOLOGIC LABORATORIES OF

FREDERICK STEARNS & CO.,

WINDSOR, ONT.
LONDON, ENG.
NEW YORK CITY.

DETROIT, MICH., U. S. A.

FRACTURES

HIP, FEMUR, LEG, PATELLA, ANKLE, NON-UNION, KNEE and HIP-JOINT DISEASE.

EASILY SET AND TREATED WITH THE AMBULATORY PNEUMATIC SPLINT

Without SHORTENING or DEFORMITY and WITH GOOD BONE UNION, while

Patient is in Bed or Walking,

about, as desired, with perfect comfort and safety.

Write for Booklet and Prices to Patients.
Cash Discounts to Physicians and Hospitals. Address

AMBULATORY PNEUMATIC SPLINT MFG. CO., 163 Randolph Street, CHICAGO.

Carried in stock by
THE J. F. HARTZ CO., 103 Miami Ave., DETROIT.

The Goodrich
"Featherweight"

WATER BOTTLE.

Almost as thin as silk, yet withal exceedingly strong and durable.

Not a novelty, but an improvement over the old sort.

ASK YOUR JOBBER.

The B. F. Goodrich Company
AKRON, OHIO.

THE FOUR-TRACK NEWS

AN ILLUTRATED MAGAZINE

OF TRAVEL AND EDUATION

Published Monthly by the

Passenger Department of the

NEW YORK CENTRAL

& HUDSON RIVER R. R

The Four-Track News will be sent free to any address for a year on receipt of 50 cents. Single copies, 5 cents. Address George H. Daniels, General Passenger Agent, Grand Central Station, New York. : : :

YOUNG'S SELF-RETAINING TUBULAR : : : RECTAL DILATORS

For the past ten years Rectal Dilatation has been successfully used for the radical cure of PILES, CONSTIPATION and the many reflex Nervous Conditions, and is employed by many of the leading and most successful physicians in the country.

Wherever there is a disturbed circulation, lack of nutrition or defective elimination, their use is recommended, as by no other means can you as readily, permanently overcome congestion and establish a healthy, normal blood current. Most physicians appreciate what this means in the treatment of chronic diseases. Our booklet on Dilatation will be sent to any physician on request.

Young's self-retaining Dilators are made of hard rubber, four sizes to set. They are made with tube running through so that a syringe may be attached if injections are recommended. Sold by all Surgical Instrument and Physicians' Supply Houses. PRICE, $2.50 to the profession. Will be sent prepaid on receipt of price.

F. E. Young & Co., 81 Dearborn St. Chicago.

SHINING
POINTS OF SUPERIORITY

EASE OF RENEWAL
CONSTANCY OF CURRENT
DURABILITY
SEND FOR
CATALOG
PORTABILITY
CLEANLINESS

KNOWN THE WORLD OVER

THE CHLORIDE OF SILVER
DRY CELL BATTERY COMPANY,
BALTIMORE, MD. U.S.A.

THIS JOURNAL'S
SUBSCRIPTION PRICE
IS $1.00 THE YEAR
AND IT IS WORTH IT!
103-105 MIAMI AVENUE.
DETROIT, MICH.

SEELEY HARD-RUBBER TRUSSES

C. & S.
CROSS
BODY
SEELEY'S
HARD
RUBBER
TRUSS.
Dotted lines show back view.
Put on from opposite side of body. Keep front pad above pubic bone.
Strap not often needed. Spring at side 2 or 3 inches below point of hip.
Back pad 1 inch higher than front.

CURE RUPTURE

Mailed *ready to wear* specially fitted for each case.
State measure of body—size of hernia, right or left, age, height and weight.
Send for catalogue and life plates.

Chesterman & Streeter,
Successors to I. B. SEELEY & CO.
25 So. 11th St. Philadelphia.

The "Baker"
ADJUSTABLE
Bedside and Reading Table

A Perfect Device for Comfort
Indispensable in the Sick Room.
Our Interesting Booklet Mailed Free.
J. R. BAKER & SONS CO.,
26 Wayne St., KENDALLVILLE, IND.

Constitutional Speech Defects—Backwardness of Intellect

In connection with our Institution for the cure of **Stammering and Stuttering** we have recently added a **Special Department** for the treatment of all forms of **Constitutional Speech Defects,** including every known character of defective utterance, Backwardness and Awkwardness of Speech, Speech Hesitation, Lisping, Burring, Cleft Palate, Lalling, Nasal Twang, Tied Tongue, Paralysis of the Vocal Cords, Substitution of Sounds, Defective Articulation and every other known character of imperfect utterance of speech or articulation. Our latest booklet, "The Treatment of Constitutional Speech Defects," with full particulars regarding treatment, furnished free, upon application. Ask also for a copy of "The Origin and Treatment of Stammering" (bound in substantial cloth) which contains papers on stammering, read before medical societies; interesting to any physician or stammerer.

Select List of References Furnished Upon Request

The
Lewis Institute for Stammerers,
35-41 Adelaide St., Detroit, Mich.

The Hastings & McIntosh Truss Company

Manufacturers of all kinds of

Hard Rubber, Elastic and Leather Covered

TRUSSES

Abdominal and Uterine Supporters, Shoulder Braces, Crutches, Elastic Hosiery and Body Belts, and Sole Makers of the Celebrated DR. McINTOSH NATURAL UTERINE SUPPORTER, for Home and Export Trade.

912 WALNUT ST., PHILADELPHIA, PA.
U. S. A.

3
HOURS
TO
COLUMBUS

UNION STATIONS
IN
TOLEDO,
COLUMBUS
AND
ATHENS.

DOUBLE TRACK ALONG
OHIO'S GREATEST RAILWAY

THE HOCKING VALLEY

L. W. LANDMAN,
Gen. Trav. Agt.,
DETROIT, MICH.

THE KNY-SCHEERER CO.

Manufacturers of and Dealers in

High-Grade Surgical Instruments

Hospital and Office Supplies.

225 to 233 Fourth Avenue, NEW YORK CITY.

The largest establishment of the kind in the United States. Carrying the most extensive and complete line of

SURGICAL INSTRUMENTS,
MODERN ASEPTIC HOSPITAL SUPPLIES,
ASEPTIC OPERATING, WARD and OFFICE FURNITURE,
STERILIZERS and DISINFECTORS,
NURSES' REQUISITES,
SICK-ROOM UTENSILS,
RUBBER SURGICAL GOODS,
SANITARY APPLIANCES,
DEFORMITY APPARATUS,
TRUSSES,
ABDOMINAL SUPPORTERS,
SHOULDER BRACES,
ELASTIC HOSIERY,
CRUTCHES, SPLINTS,
INVALID CHAIRS,
ASEPTIC SURGICAL DRESSINGS,
BANDAGES and PLASTERS,
ELECTRIC BATTERIES and APPLIANCES,
MASSAGE INSTRUMENTS,
ANATOMICAL MODELS,
OSTEOLOGICAL PREPARATIONS,
LABORATORY SUPPLIES,
NATURALISTS' INSTRUMENTS,
MICROSCOPES and ACCESSORIES, ETC., ETC.

Correspondence Invited.
Inspection of PREMISES and STOCK SOLICITED.
Catalogues Mailed FREE on Application.

The N. Y. SCHOOL of PHYSICAL THERAPEUTICS

Devoted to Post Graduate Instruction in subjects not generally taught in Medical Colleges.

PHOTOTHERAPY	Margaret A. Cleaves, M.D.
ELECTRO-STATIC and HIGH FREQUENCY CURRENTS,	Wm. Benham Snow, M.D.
DIETOTHERAPY and STOMACH ANALYSIS	Sigismund Cohn, M.D.
ELECTRO-CHEMICAL SURGERY	G. Betton Massey, M.D.
EXERCISE-THERAPY	Watson L. Savage, M.D.
ALTERNATING and CONTINUOUS CURRENTS	Morris W. Brinkmann, A.B. M.D.
PSYCHIATRY	Leslie Meacham, M.D.
RADIOGRAPHY	Herman Grad, M.D.
MECHANICAL VIBRATION THERAPY	Arnold Snow, M.D.
THERMOTHERAPY	David E. Hoag, M.D.
RADIOTHERAPY	Wm. Benham Snow, M.D.

The course consists of lectures and demonstrations in the clinics of the various departments.

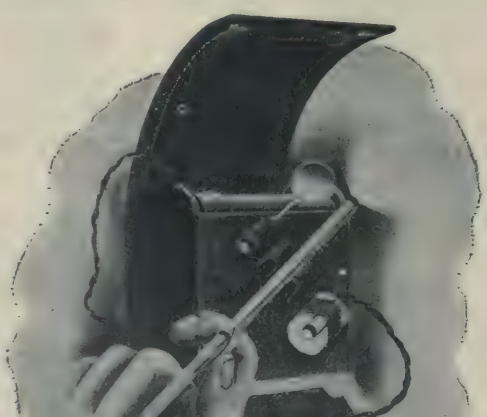
For Further Particulars Address

WM. BENHAM SNOW, M.D., Pres., 465 Lexington Ave., N. Y. City.

New Illuminating and Diagnostic Lamp

Price, $5.00.

Compact and Complete.
Light in Weight.
Closes up like a Pocketbook.
Gives 500 Examinations. for 50 Cents.
Steady or intermittent Light.



For Physicians and Dentists.

An intense bright light, with an adjustable reflecting mirror and a combination tongue depressor.

Fitted with the "Reliable" Dry Batteries, guaranteed strongest and best.

Battery renewals, 50 cents. Lamp renewals, 75 cents.

HOWARD ELECTRIC NOVELTY CO., Incorporated

221 Canal Street New York City

PAPAYA TABLETS (HARTZ)

FOR THE TREATMENT OF

PEPTIC AND INTESTINAL INDIGESTION

A stable preparation of the digestive principles obtained from the fruit of Carica Papaya ombined with Willow Charcoal, Sodium Bicarbonate and Aromatics,

IS ACTIVE IN ACID, ALKALINE AND NEUTRAL MEDIA.

DIGESTS PROTEIDS, STARCHES AND FATS.

CORRECTS FERMENTATIVE CATARRHAL AND DEBILITATED CONDITIONS OF THE DIGESTIVE TRACT.

STIMULATES THE SALIVARY, PEPTIC, PANCREATIC AND BILIARY GLANDS TO ACTION.

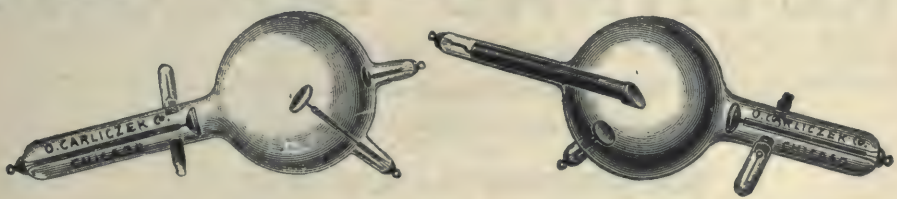
OVERCOMES NAUSEA, VERTIGO, FLATULENCE, PALPITATION, ACID REGURGITATION, ETC.

And is a most satisfactory remedy for the treatment of both peptic and intestinal indigestion.

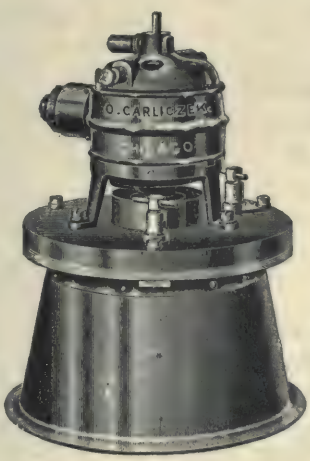
MANUFACTURED BY **THE J. F. HARTZ CO.,**

PRICE PER M, $2.50. DETROIT AND TORONTO.

X-RAY TUBES OF UNSURPASSED QUALITY



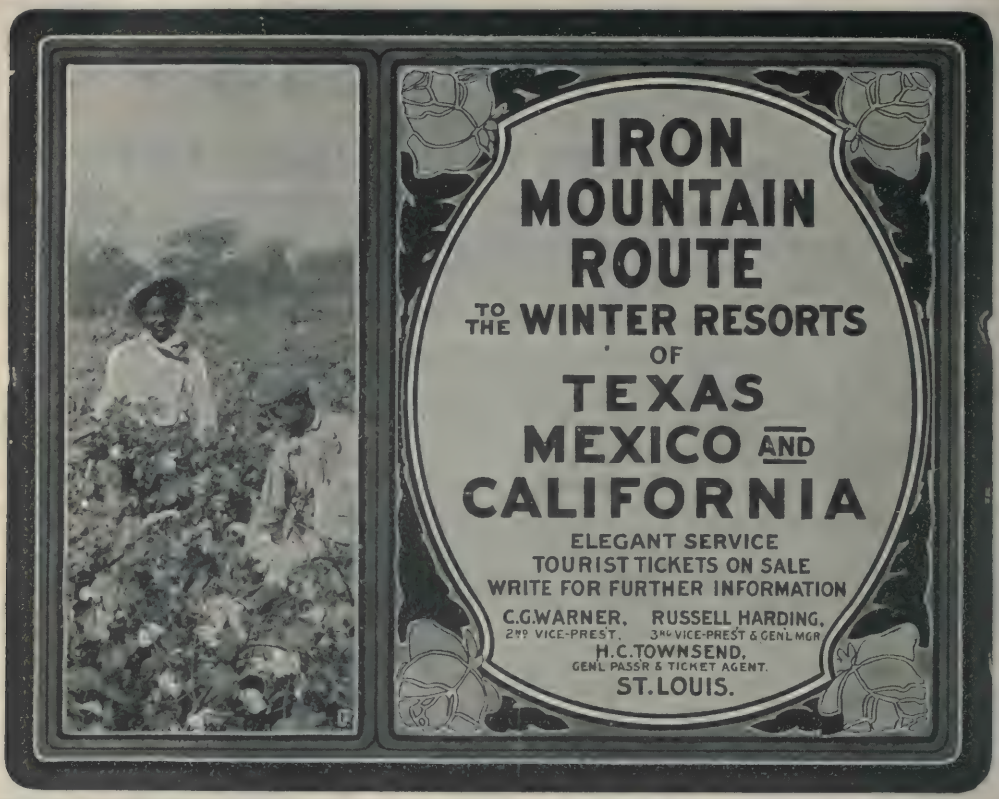
Latest and Most Improved Noiseless-Running Mercurial Interrupter, Suitable for any X-Ray Coil.



All Sizes of X-Ray Tubes On Hand, With or Without Regenerating Attachment For Treatments and Heavy Radiographic Work.

OTTOMAR CARLICZEK COMPANY

908 SCHILLER BLDG., CHICAGO

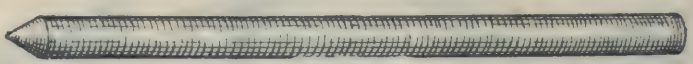


BISSELL WILSON, D. P. A., 111 ADAMS ST., CHICAGO, ILLS.

H. D. ARMSTRONG, TRAVELLING PASSENGER AGENT, 32 CAMPUS MARTIUS, DETROIT, MICH.

URETHRAL BOUGIES

SOLUBLE, MEDICATED.



EXACT SIZE

FOR GONORRHOEA AND GLEET.

No. 1. Gonococcicide.

Each Bougie contains:

One per cent. Protargol, in solution.

No. 3. Astringent and Sedative.

Each Bougie contains:

Zinc Sulphate, 1-2 gr.
Antipyrine, 1 gr.
Boric Acid, 2 grs.
Carbolic Acid, 1-4 gr.
Fluid Hydrastis, 3 grs.
Morphine Sulphate, 1-10 gr.

No. 6. Mild, Astringent and Sedative.

Each Bougie contains:

Zinc Oxide, 2 grs.
Zinc Sulphate, 1-4 gr.
Cocaine Hydrochlorate, 1-10 gr.
Morphine Sulphate, 1-8 gr.
Boric Acid, 2 grs.

No. 11. Mild Astringent and Alterative.

Each Bougie contains:

Bismuth, Subnitrate, 3 grs.
Acid, Boracic, 2 grs.
Fluid Hydrastis, 5 grs.

Price, any of the above formulae, per box of one dozen, 50 cents.
Five and one-half inch lengths, same formulae, per box of one dozen, 60 cents.

MAY BE ORDERED BY MAIL.

2 Richmond St., East, TORONTO, CANADA.

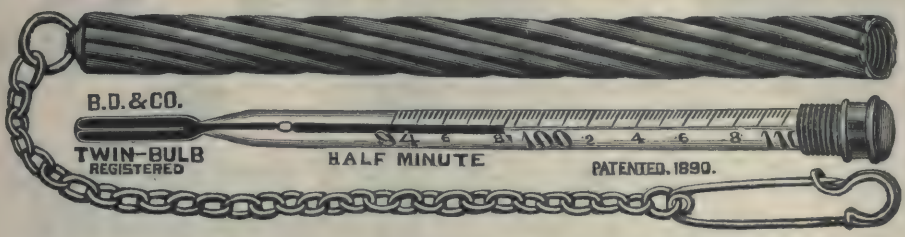
THE J. F. HARTZ CO.

103 and 105 Miami Ave., DETROIT, MICH.

THE WISE DOCTOR SPECIFIES

"TWIN-BULB"

WHEN ORDERING A FEVER THERMOMETER.



IT IS THE STANDARD OF ACCURACY.

REGISTERS QUICKER, SHAKES DOWN EASIER, AND COSTS NO MORE THAN OTHER MAKES.

FOR SALE BY ALL DEALERS IN PHYSICIANS' SUPPLIES

PRICES :

2	Minute	in	H. R	or	Aluminum	Case,	.	.	.	.	Each,	$1.00
1	"	"	"	"	"	"	.	.	.	.	"	1.25
½	"	"	"	"	"	"	.	.	.	.	"	1.50

BECTON, DICKINSON & CO., N. Y., MAKERS.

THIS CABINET

WILL COST YOU $30

White Enameled Interior.
Bevel Glass Door.
Three Plate-Glass Shelves, Front Edges Polished.
Five Drawers, White Enameled Interior.
Made of Handsomely Finished Oak.
Slide Pest for Instruments.
Pail Compartment.
Steel Enamel Pail, $1.50 Extra.
74 inches high, 27 inches wide.
Body, 36 inches high. Shelves, 12 inches deep
Stand, 14 inches deep.

THE J. F. HARTZ CO.

103 and 105 Miami Ave., DETROIT, MICH.

2 Richmond Street East, TORONTO, ONT.

MgO_2

A new chemical compound discovered by Dr. Friederick Elias

BERLIN GERMANY

BIOGEN, or MAGNESIUM DIOXIDE (MgO_2), is a true definite chemical compound which liberates a high percentage of active nascent oxygen in the economy.

According to Fresenius, of Wiesbaden, and Prof. Henry Leffman (Vice-President of the British Society for Public Analysts) **BIOGEN** contains 33⅓ per cent. Magnesium Dioxide (MgO_2); therefore this new substance exceeds by its high content of oxygen (28 per cent.) all other similar agents as well as its stability and freedom from irritant, astringent and corrosive action.

BIOGEN (MgO_2) may be administered in massive doses without disagreeable or untoward effects. Upon disintegration it gives up its oxygen freely in the stomach and intestines, which in turn is taken up greedily by the capillaries.

BIOGEN has all the good properties of iron without its constipating effect, all the advantages of arsenic without its toxicity.

GENERAL INDICATIONS

BIOGEN (MgO_2) is indicated when there is a deficiency of the blood in its bulk or its normal constituents. For this reason it is invaluable in all forms of anemia, tuberculosis, uric acid diathesis, leukemia, Hodgkin's disease and Addison's disease.

VAN NOORDEN, of Frankfort, Germany, has found it extremely useful in Diabetes Mellitus, as it reduces the glucose and exercises a marked influence in the rapid oxidation and diminution of urea in the blood.

It controls dyspnea inherent to certain morbid conditions of the organism. In pneumonia it has given the most satisfactory results.

Furthermore, it is a most effective prophylactic in septic conditions, acting directly on the blood throughout the entire organism. Its field of therapeutic activity in that direction alone is limitless.

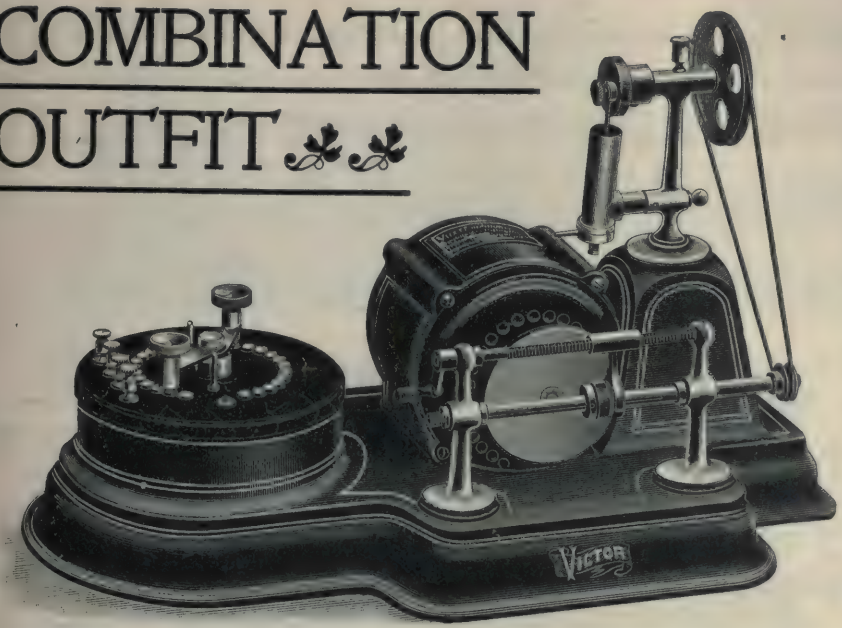
In all disturbances of the respiratory and circulatory systems, such as Pneumonia, Asthma, Pulmonary Tuberculosis and Membranous Laryngitis, positive benefit has been derived from the use of this product. In oxidizing and promoting elimination of waste tissue it is without a peer in Materia Medica.

BIOGEN, MAGNESIUM DIOXIDE (MgO_2), has exhibited its potency in such a wide variety of diseases that a liberal supply of samples and clinical reports of its value will be furnished to physicians on application to

The Biogen Company

90 WILLIAM STREET NEW YORK

COMBINATION OUTFIT



Comprising Ear and Eye Masseur Pump, Cautery Transformer, and attachments for Nasal Drills, Trephines and saws; also Vibratory Stimulation for operation on

Alternating Current

We also manufacture outfits having the same functions for 110-220 and 500 Volt direct currents.

This is the only satisfactory outfit of this character ever devised.

An Ideal instrument for controlling the 110 or 220 volt direct current, where galvanic current only is desired.

Especially valuable in Electrolysis, Cataphoresis, and Galvanic treatments of all kinds.

Is provided with both voltmeter and milliampere meter.

Send for Catalogue No. 21, in it you will find illustrated a large line of the latest Electro-Surgical Apparatus including Finsen Lamps, Giant Eye Magnets, Cautery Transformers, Vibratory Massage Apparatus, etc., etc.

VICTOR ELECTRIC CO.

55-61 Market Street, CHICAGO, ILL.

ESTABLISHED 1870

VAN HOUTEN & TEN BROECK CO.,

300 Fourth Avenue, New York

MAKERS OF HIGH GRADE

Electro-Therapeutical Apparatus

The Morton-Wimshurst-Holtz

INFLUENCE MACHINE

The Best Machine that Skilled Workmen and Money Can Produce

CATALOGUE SENT ON APPLICATION.

CANADIAN AGENTS:

THE J. F. HARTZ CO. No. 2 East Richmond St., TORONTO

Absolute Accuracy Attained

In Tagliabue's Standard Clinical Thermometers.

If you desire accurate sensitive instruments, procure from your dealer a **Tagliabue No. 222** and don't allow substitution.

Price as low as any of the so-called special Thermometers which are so loudly advertised, but you can always rely on a Tagliabue No. 222 being the **Best** made either **Foreign** or **Domestic.** Furnished as follows:

Tagliabue's Standard No. 222, 2 Minutes .....$1.00 each
Tagliabue's Standard No. 222, 1 Minute .....$1.25 each
Tagliabue's Standard No. 222, ½ Minute .....$1.50 each

Genuine instruments are all engraved with my name and No. 222.

These Thermometers are carried in stock by all Reliable Surgical Instrument and Drug Houses. If your dealer cannot supply these goods write me direct, enclosing the exact amount and I will send you what you may order by mail.

CHAS. J. TAGLIABUE, New York.

℞ "IN KONSEALS"

for all powdered or nauseous drugs guarantees you that your patient will receive the exact quantity of medicine prescribed, losing none as is often the case when administered in powder papers. Konseals being tasteless, quickly soluble and easily swallowed, are much superior to gelatine capsules, etc.

NEARLY ALL DRUGGISTS ARE SUPPLIED WITH SIZES TO FIT THE DOSE.

SAMPLES AND BROCHURE ON REQUEST.

J. M. GROSVENOR & CO., BOSTON, MASS.

ALBASULPHIDI

The only reliable lotion for the prompt and effectual eradication of Acne in all its protean forms—Guaranteed!

(FORMULA OF G. R. SHIMMEL.)

This preparation represents the greatest possible therapeutic activity, along with the perfection of pharmaceutical art and chemical skill. In pint bottles only.

EACH PINT SUFFICES FOR FOUR PRESCRIPTIONS.

PRICE: 75 CENTS PER BOTTLE, NET.

HARTZ ACNE LANCE AND COMEDO EXTRACTOR.

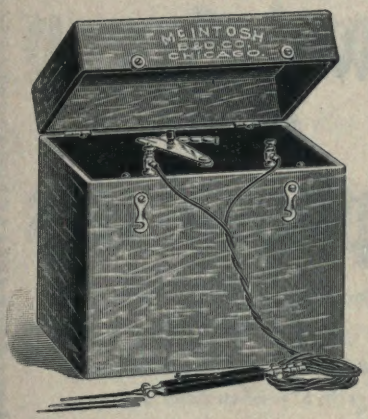
PRICE: 25 CENTS EACH.

THE J. F. HARTZ CO. 103 and 105 Miami Ave., Detroit, Mich.
No. 2, East Richmond St., Toronto, Ont.

McINTOSH

BATTERIES,
ELECTRODES,
X-RAY APPLIANCES

Dry Cell Galvano-Cautery Battery.



This Battery has been designed to supply the needs of Physicians who use Galvano-Cautery but occasionally, and who demand a convenient, clean and easily portable battery.

Those who consider the plunge batteries annoying and troublesome owing to the corrosive fluid, will find this battery especially desirable.

It is fitted with six No. 7 Columbia Dry Cells connected in series parallel.

It will heat the ordinary sized loops and knives to incandescence, and will maintain them so when embedded in the tissues. The battery has been put to many severe tests, and in every case has fulfilled our expectations.

SEND FOR OUR NEW ILLUSTRATED CATALOGUE.

McINTOSH BATTERY & OPTICAL COMPANY,

Canal and Randolph Sts., CHICAGO, ILL.

POLK'S MEDICAL REGISTER AND DIRECTORY

WAS ESTABLISHED IN 1886.

Do Not Be Deceived By Imitators.

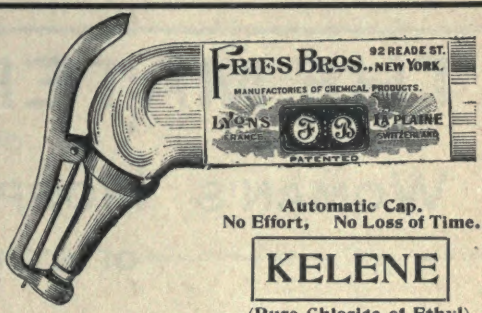
See that the name R. L. POLK & CO.

IS ON THE ORDER BEFORE YOU SIGN IT.

POLK'S is the only complete Medical Directory.
POLK'S is the only Medical Directory having an index to all physicians in the United States.
POLK'S has stood the crucial test of time with increasing popularity. It thoroughly covers the field.

R. L. POLK & CO., Publishers,
DETROIT, MICHIGAN.

SUBSCRIBE NOW.



Automatic Cap.
No Effort, No Loss of Time.

KELENE

(Pure Chloride of Ethyl)

Send $1.10 for large 30 gram sample Automatic Tube; or for $1 a Double Ended Tube will be sent postpaid in the U. S. Safe Delivery Guaranteed.

Write for literature on Formaldehyde-Kelene for use in Hay Fever, Catarrh, etc

We also furnish a Graduated Tube for the use of KELENE in GENERAL ANAESTHESIA, also as a preliminary to Ether. Each tube contains 50 C. C., and costs $1.60. Safe delivery guaranteed.

Read Dr. Martin W. Ware's article in the Journal of the American Medical Association, Nov. 8, 1902 issue, on page 1160, concerning his experience in over 1,000 cases. Copies sent upon request.

Write to the sole manufacturers for full particulars, Clinical Reports, etc.

FRIES BROS. MFG. CHEMISTS,
92 Reade Street, NEW YORK

The Survival of The Fittest

To obtain immediate results in Anaemia, Neurasthenia, Bronchitis, Influenza, Pulmonary Tuberculosis, and during Convalescence after exhausting diseases employ

Fellows' Syrup of Hypophosphites

Contains—Hypophosphites of Iron, Quinine, Strychnine, Lime, Manganese, Potash.

Each fluid drachm contains the equivalent of 1-64th grain of pure strychnine.

Special Note.—Fellows' Hypophosphites *is Never Sold in Bulk.*

Medical letters may be addressed to MR. FELLOWS, 26 Christopher St., New York.

THE MATERNITY HOME

OF THE

WOMAN'S HOSPITAL ASSOCIATION

OF ST. LOUIS, MO.

OFFERS TO THE MEDICAL PROFESSION A REPUTABLE HOME AND BEST OF HOSPITAL CARE FOR

WOMEN DURING CONFINEMENT

THE UTMOST SECRECY MAINTAINED AS TO IDENTITY OF PATIENTS WHEN REQUIRED.

FOR RATES, ETC., ADDRESS

DR. EMORY LANPHEAR,

CHIEF SURGEON.

3870 DELMAR BVLD. ST. LOUIS, MO.

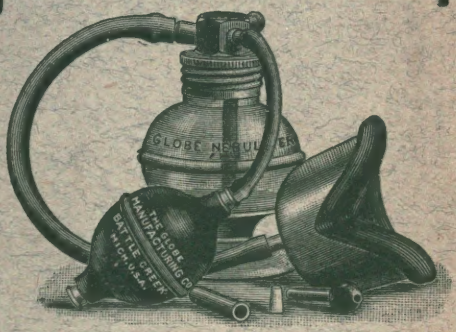
Seasonable Suggestions

To combat the troubles of Nose and Throat, incident to fall weather, the alert physician needs

Atomizers and Nebulizing Fluids

We have a complete stock of the best goods at fair prices.

ATOMIZER, COMPLETE, $1.00
CANADIAN PRICE, $1.25



NEBULIZER AND FACE SHIELD, $4.80 NET.

NEBULIZING FLUIDS

FORMULA NO. 1.

Oil Scotch Pine, 30 min.
Oil Eucalyptus, 1 drachm.
Oil Cassia, 30 mins.
Menthol, Crystals, 20 grs.
Balm Gilead Buds, Fl. Ext., 1 drachm.
Benzoin, Tincture, q. s. 4 oz.
Antiseptic, stimulant and protective. For Bronchial and Catarrhal Affections.
Four oz., 40 cents.
One pt., $1.50.

FORMULA NO. 3.

Iodine Crystals, 30 grs.
Creosote, Beechwood, 1 drachm.
Camphor, Gum, 1 drachm.
Oil Tar, 40 min.
Formula No. 1, q. s. ad 4 oz.
For Laryngeal and Pulmonary Tuberculosis.
Four oz., 40 cents.
One pt., $1.50.

FORMULA NO. 5.

Cocaine Muriate, 15 grs.
Camphor Gum, 1 drachm.
Quinine Hydrobromate, 120 grs.
Acid Hydrochloric, 20 min.
Antipyrin, 15 grs.
Formula No. 1, q. s., 4 oz. Almost a specific for Hay Fever. Useful in Asthma, Diphtheria and Whooping Cough.
Four oz., $1.25.

FORMULA NO. 9.

Cocaine Alkaloid, 8 grs.
Oil Cassia, 30 min.
Menthol, Crystals, 1 drachm.
Camphor Gum, 1 drachm.
Alboline, q. s., 4 oz.
For acute Congestion and Inflammation of Nose, Throat and Middle Ear. The oil base prolongs the effect of the cocaine.
Four oz., 50 cents.
One pint, $1.80.

VAPO ANTISEPTOL.

1 pt., 75 cents.

ALKA ANTISEPTOL.

1 pt., 50 cents.

The J. F. HARTZ COMPANY,

2 East Richmond Street,
TORONTO, ONT.

103-105 Miami Avenue,
DETROIT, MICH.

LISTERINE

A Non-toxic, Non-irritant, Non-escharotic Antiseptic.

ABSOLUTELY SAFE, AGREEABLE AND CONVENIENT.

Listerine is a well-proven antiseptic agent—an antizymotic—especially useful in the management of catarrhal conditions of the mucous membrane, adapted to internal use, and to make and maintain surgically clean —aseptic—all parts of the human body, whether by spray, injection, irrigation, atomization, inhalation, or simple local application.

Listerine is a swift and sure destroyer of infusorial life; it prevents the various fermentations, preserves animal tissues and inhibits the activity, growth and motion of low forms of vegetable life: hence Listerine may be relied upon to destroy the activity of the living particles which constitute contagion whenever brought into intimate contact therewith.

For diseases of the uric acid diathesis:

Lambert's Lithiated Hydrangea

A remedy of acknowledged value in the treatment of all diseases of the urinary system and of especial utility in the train of evil effects arising from a uric acid diathesis.

Descriptive literature may be had upon application to the Manufacturers—

Lambert Pharmacal Co.

St. Louis, U. S. A.

Be assured of genuine Listerine by purchasing an original package.